

2010 KENTUCKY STATE HAZARD MITIGATION PLAN APPENDICIES

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Appendix 1: Plan Contributors

STAFF BIOGRAPHIES

Brigadier General John Heltzel, KyEM Director - In July 2008, General Heltzel was appointed by Governor Steven L. Beshear to direct the Kentucky Division of Emergency Management. Within his capacity as Director, General Heltzel is responsible for the coordination of all government resources in the event of natural or manmade disasters and emergencies throughout the Commonwealth. In 1979, he received his Military Commission in the Kentucky National Guard from Eastern Kentucky University, graduating with a degree in Broadcast Communications. He later received his Master's Degree in Public Affairs in 1988 with an emphasis on Management Information Systems from Kentucky State University.

Stephanie Robey, Recovery Branch Manager – Ms Robey has been with KyEM for one (1) year. Her background in state government includes four (4) years with the Kentucky Transportation Cabinet as Director of Division of Accounts, with responsibility for financial oversight of over 10,000 federal grants, eight years (8) as Chief of Staff to the Auditor of Public Accounts where she coordinated all OMB A-133 audits of state and local governments, and four (4) years as Chief of Staff to the Commissioner of Financial Institutions. Prior to state government, Ms Robey was employed in the banking industry.

Leslie Mahoney, State Hazard Mitigation Officer – Ms Mahoney has been employed with KyEM for a year and a half. She graduated with a Bachelor of Science degree from Western Kentucky University and a Master of Science degree from Eastern Kentucky University. Her past experiences include Program Coordinator for Special Olympics Kentucky and Event Director for Eastern Kentucky University.

Cassandra Royce-Sanderson, Grants Manager – Mrs. Royce-Sanderson has been employed with KYEM since July of 2009. She attended University of Kentucky and Kentucky State University. She has worked as a Legislative Assistant with the Kentucky Legislative Research Commission, a Project Specialist and a Supervisor in Public Assistance and Mitigation for FEMA. Additionally, she is a licensed realtor and owns a lawn care business.

James Doug Eades, Grants Manager - Mr. Eades has been employed with KyEM since April 1, 2010. He graduated from University of Kentucky with a Bachelor's degree in Agriculture Communications. He worked as Director of Communications for the

Kentucky Cattlemen's Association, owned and operated an internet service provider, and also worked for Kentucky Farm Bureau Insurance.

Greg Shanks, Grants Manager – Mr. Shanks joined KyEM in October of 2009. He holds a Bachelor's in Recreation and Park Administration from Eastern Kentucky University. He has held multiple positions within local parks and recreation departments before accepting a position with Special Olympics Kentucky as Program Coordinator.

Valerie Wallace, Grants Manager - Ms Wallace, a graduate of Auburn University, began her emergency management career in 2006 with the Alabama Emergency Management Agency where she worked with Hazard Mitigation Grant Programs for Hurricanes Katrina, Dennis, and Ivan. She also spent several years with the CSSEP Program in Alabama before relocating to the Commonwealth to work with KyEM's Public Assistance Program. She has recently relocated to the Hazard Mitigation Program.

Brian Gathy, Program Coordinator UK Support Office – Mr. Gathy is the Program Coordinator at the UK Hazard Mitigation Grants office. He has a Bachelor's Degree in Government from the University of Kentucky and also received his Master's in Public Administration from the Martin School of Public Administration at UK. His work experiences include Senior Research Administrator in the Office of Sponsored Projects Administration, Business Officer for Capital Project Management and Real Property Office, and Director of Finance for Campus and Auxiliary Services.

Emily Frank, Planning Grants Manager UK Support Office – Ms Frank has served as the planning grants manager at the UK Hazard Mitigation Grants office since fall of 2007. She holds a Master's of Science in Library and Information Science.

Esther White, Project Grants Manager UK Support Office – Ms White is the project grants manager at the UK Hazard Mitigation Grants office. She is a 2007 graduate of Berea College with a Bachelor of Science degree in Science in Business Administration with an economics concentration. Ms. White is currently completing a Master of Public Administration degree at the University of Kentucky Martin School of Public Policy and Administration with a nonprofit management concentration.

Josh Human, Associate Director for the Center for Hazard Research (UofL) – Mr. Human achieved a degree in geography at the University of Kentucky and in urban planning at the University of Tennessee. He has served as project manager for the three (3) Disaster Mitigation Act of 2000 State Hazard Mitigation Plans, one (1) Local

Hazard Mitigation Plan, two (2) University Hazard Mitigation Plans, and has performed private contract work on three (3) other local plans.

Appendix 2: State Hazard Mitigation Team (SHMT) Members

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Appendix 3: Stakeholder List

Agency/Institution Contact List	First Name	Last Name
(Red=Federal government entities)(Orange=KY state and local entities)(Yellow=non-government and non-profit entities)(Green=KY colleges and universities)(Blue=KY utilities)(Purple=Railroad companies with tracks in KY)		
Alice Lloyd College	Joe A.	Stepp
American Red Cross (Bluegrass Area Chapter)	Terry	Burkhart
American Red Cross (Louisville Area Chapter)	Loren	Schanding
American Red Cross (Louisville Area Chapter)	Keith	Alvey
American Red Cross (Mid-East Kentucky Chapter)	Brenda	Jones
American Water Works Association - KY/TN Section AWWA	Randy	Jones
Asbury College	William	Crothers
Asbury College	Jerry	Marchal
Asbury Theological Seminary	Timothy C.	Tennent
Barren River Area Development District (BRADD)	Rodney	Kirtley
Barren River Area Development District (BRADD)	Brent	Childers
Bellarmino University	Joseph J.	McGowan
Bellarmino University	Lance	Edwards
Berea College	Larry D.	Shinn
Berea College	Darrel	Harrison
Big Rivers Electric Corporation (generation/transmission cooperative)	Mark A.	Bailey
Big Rivers Electric Corporation (generation/transmission cooperative)	David	Crockett
Big Sandy Area Development District (Big Sandy)	Jeff	Sizemore
Big Sandy Area Development District (Big Sandy)	Sandy	Runyon
Big Sandy Area Development District (Big Sandy)	Melanie	Stevens
Bluegrass Area Development District (BGADD)	Lenny	Stolz II
Bluegrass Area Development District (BGADD)	David	Duttlinger
Bluegrass Energy (generation/transmission cooperative)	Dan	Brewer
Brescia University	Larry	Hostetter
Buffalo Trace Area Development District (BTADD)	Kevin	Cornette
Buffalo Trace Area Development District (BTADD)	Amy	Kennedy
Campbellsville University	Michael V.	Carter
Campbellsville University	Rick	Benningfield
Canadian National Railway	E. Hunter	Harrison
Centre College	John	Roush
Centre College	Gary	Bugg
Clear Creek Baptist Bible College	Donnie	Fox
CSX	Michael J.	Ward

Agency/Institution Contact List	First Name	Last Name
CSX	Gabriel	Treesh
CSX	Tom	Murta
Cumberland Valley Area Development District (CVADD)	Mike	Patrick
Cumberland Valley Area Development District (CVADD)	Whitney	Chesnut
Cumberland Valley Area Development District (CVADD)	Leslie	Gill
Department of Housing and Urban Development, Louisville Office	Krista	Mills
East Kentucky Power Cooperative (generation/transmission cooperative)	Anthony	Campbell
East Kentucky Power Cooperative (generation/transmission cooperative)	Mark	Brewer
Eastern Kentucky University - Department of Government	Jo Ann	Ewalt
Emergency Management Agency (Danville-Boyle County)	Lennie	Shepperson
Federal Emergency Management Agency (FEMA) Region IV	Linda	Byers
Federal Emergency Management Agency (FEMA) Region IV	Phillip	May
Financial Facilities	Todd	Gray
FIVCO Area Development District (FIVCO)	Sherry	McDavid
FIVCO Area Development District (FIVCO)	Tom	Saylor
Frontier School of Midwifery and Family Nursing	Susan	Stone
Gateway Area Development District	Gail	Wright
Gateway Area Development District	Mark	Collier
Georgetown College	William H.	Crouch
Governor's Office for Local Development (GOLD)	Tony	Wilder
Governor's Office for Local Development (GOLD)	Stacia	Payton
Green River Area Development District (GRADD)	Jiten	Shah
Green River Area Development District (GRADD)	Brad	Alley
Green River Area Development District (GRADD)	Misty	Sampson
Home Builders Association of Kentucky (HBAK)	Glen	Perkins
Kentuckiana Regional Planning and Development Agency (KIPDA)	Jack	Couch
Kentuckiana Regional Planning and Development Agency (KIPDA)	Jarrett	Haley
Kentucky Association of Counties (KACo)	Mike	Foster
Kentucky Association of Counties (KACo)	Denny	Nunnelley
Kentucky Association of Electric Cooperatives, Inc. (KAEC)	Ron	Sheets
Kentucky Association of Electric Cooperatives, Inc. (KAEC)	Dennis	Cannon
Kentucky Association of Electric Cooperatives, Inc. (KAEC)	David	White
Kentucky Association of Equine Practitioners	Luke	Fallon
Kentucky Association of Professional Surveyors (KAPS)	Richey	Newton
Kentucky Board of Emergency Medical Services	Bob	Hammonds
Kentucky Cabinet for Economic Development	Larry	Hayes
Kentucky Cabinet for Health and Family Services	Janie	Miller
Kentucky Chapter of the American Planning Association	M. Louise	Allen
Kentucky Chapter of the American Planning Association	Dawn	Warrick
Kentucky Christian University	Jeffrey K.	Metcalf

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Kentucky Council on Postsecondary Education	Bob	King
Kentucky Department of Agriculture (KDA)	Richie	Farmer
Kentucky Department of Agriculture (KDA)	Ed	Hall
Kentucky Department of Education (KDE)	Terry	Holliday
Kentucky Department of Environmental Protection	Kevin	Flowers
Kentucky Department of Fish and Wildlife	Jonathan W.	Gassett
Kentucky Department of Fish and Wildlife	Hank	Patton
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Kentucky Department of Labor	Mark S.	Brown
Kentucky Department of Military Affairs	Edward W.	Tonini
Kentucky Department of Revenue	Tom	Miller
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Kentucky Division of Emergency Management - EM 45	Gene	Logue
Kentucky Division of Emergency Management- EM 46	Mike	Dossett
Kentucky Division of Emergency Management- EM 47	Rick	Watkins
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Kentucky Division of Emergency Management- EM 53	Steve	Oglesby
Kentucky Division of Emergency Management- EM 54	John	Bastin
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Kentucky Division of Forestry	Tad	Norris

Agency/Institution Contact List	First Name	Last Name
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Kentucky Emergency Management Association	Tony	Richey
Kentucky Environment and Public Protection Cabinet	Len	Peters
Kentucky Environment and Public Protection Cabinet	Hank	List
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Kentucky Geological Survey (KGS)	Mike	Lynch
Kentucky Geological Survey (KGS)	John	Kiefer
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Kentucky Manufactured Housing Institute (KMHI)	Betty	Whittaker
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Kentucky Mountain Bible College	Russ	Frazier
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Kentucky Office of Homeland Security	Susan	Wilkerson
Kentucky Office of Homeland Security	Thomas L.	Preston
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Kentucky Department of Insurance	Treva	Wright-Donnel
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Kentucky Personnel Cabinet	Tim	Longmeyer
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Kentucky Public Service Commission	Charles R.	Borders
Kentucky Public Service Commission	David L.	Armstrong
Kentucky River Area Development District (KRADD)	Paul E.	Hall
Kentucky River Area Development District (KRADD)	Benny	Hamilton
Kentucky Society of Professional Engineers (KSPE)	George M.	Binder
Kentucky State Police	Rodney	Brewer

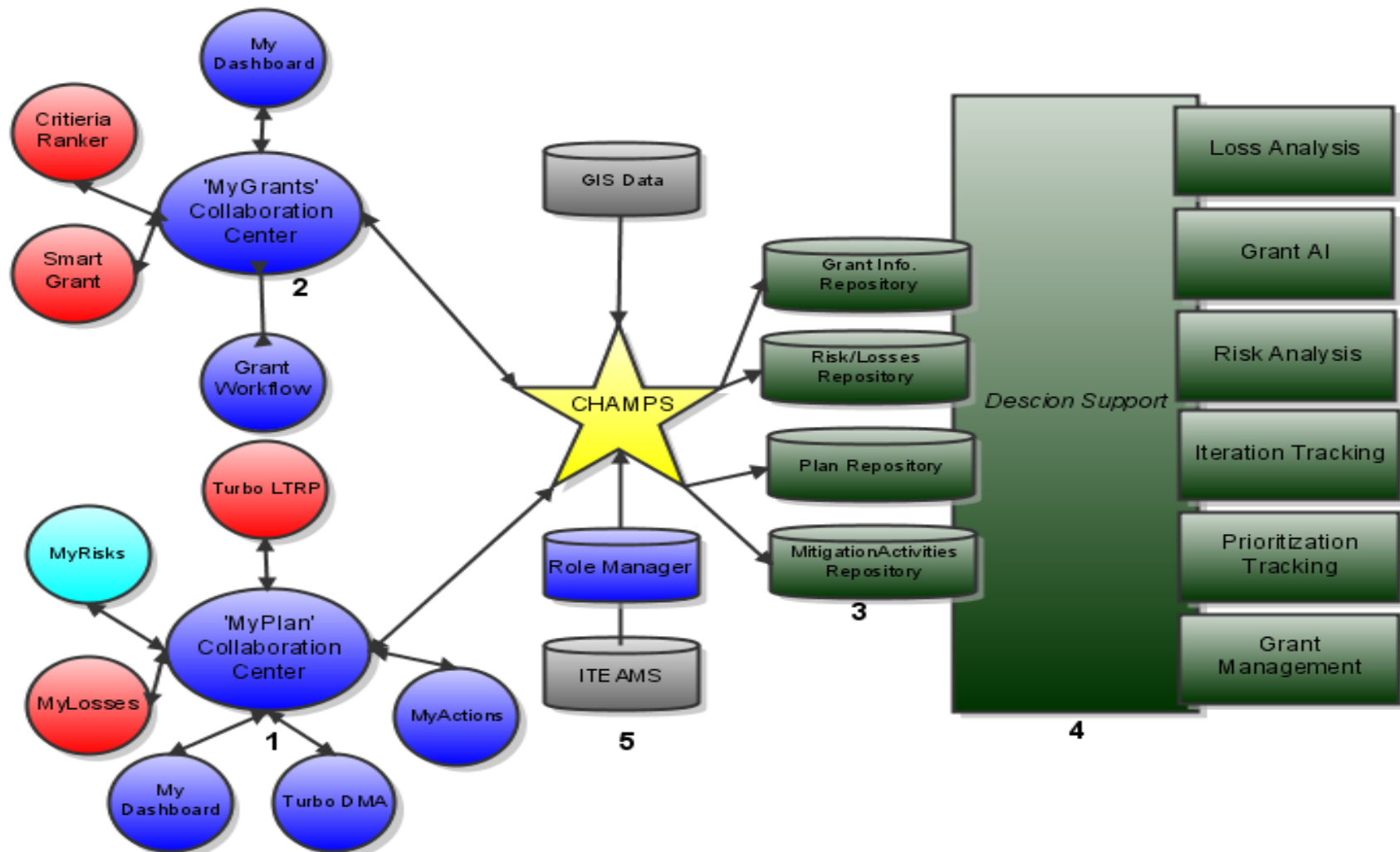
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Transylvania University	Charles L.	Shearer
Transylvania University	Robert	Brown
U.S. Army Corps of Engineers - Huntington District	Robert L.	Van Antwerp
U.S. Army Corps of Engineers - Louisville District (USAEDL)	Keith A.	Landry
U.S. Army Corps of Engineers - Nashville District	Anthony P.	Mitchell
Union College	Ed	DeRosset
Union College	Steve	Hoskins
United State Environmental Protection Agency (US EPA) - Region 4	A. Stanley	Meiberg
United State Environmental Protection Agency (US EPA) - Region 4	Art	Smith
United States Geological Survey (USGS) Louisville Office	Mark	Ayers

Agency/Institution Contact List	First Name	Last Name
United States Geological Survey (USGS) Louisville Office	William R.	Guertal
United States Geological Survey (USGS) Paducah Office	Steve	Darnell
United States Geological Survey (USGS) Williamsburg Office	Cliff	Moses
United States Representative - Congressional District 01	Edward	Whitfield
United States Representative - Congressional District 02	Brett	Guthrie
United States Representative - Congressional District 03	John	Yarmuth
United States Representative - Congressional District 04	Geoff	Davis
United States Representative - Congressional District 05	Harold	Rogers
United States Representative - Congressional District 06	Ben	Chandler
United States Senator for Kentucky	Mitch	McConnell
United States Senator for Kentucky	Jim	Bunning
United States Small Business Administration - Kentucky District Office	Steven	Ayers
United States Small Business Administration - Kentucky District Office	Phillip	Danhauer
University of Kentucky - Emergency Management	Christy	Giles
University of Kentucky - UK Hazard Mitigation Program Support Office	Brian	Gathy
University of Kentucky - UK Hazard Mitigation Program Support Office	Emily	Frank
University of Louisville - Center for Hazards Research and Policy Development	Dave	Simpson
University of the Cumberlands	Jim	Taylor
University of the Cumberlands	David	Root
Western Kentucky University - Graduate School	Richard	Bowker

Appendix 4: CHAMPS Overview

This diagram describes the conceptual design of CHAMPS. (See following text for component descriptions)



CHAMPS

The Commonwealth Hazard Assessment and Mitigation Planning System (CHAMPS) is a comprehensive solution for supporting emergency and hazard management, response, recovery, and mitigation activities. CHAMPS is database driven and serves to centralize development and distribution of statewide planning processes, products, and coordinated stakeholder efforts. The system is based upon connecting new and existing information subsystems, or modules, together in a manner which unites multiple agency workflows and decision making processes. CHAMPS is a fully secure, user-authenticated system which resides in two locations. CHAMPS is being developed by Kentucky Emergency Management, University of Louisville's Center for Hazards Research and Policy Development, and the engineering firm Stantec. The primary location will be housed at Kentucky Emergency Management with a secondary backup location at the University of Louisville's Center for Hazards Research.

The development of CHAMPS is expected to occur in multiple phases. The first phase of CHAMPS production has been funded under a 2008 FEMA Pre-Disaster Mitigation (PDM) grant. Additional phases of the system are proposed as part of this grant request and other funding mechanisms are currently being explored.

The primary elements of the CHAMPS framework are described below (See preceding graphic for conceptual design and numbering). Each element is identified by element name and number with subsequent description.

- Elements in blue are funded under PDM 2008.
 - Elements in red are proposed under this Second Supplemental Appropriate Disaster Relief Opportunity grant.
 - Elements in green will be developed under both of the above-mentioned grants.
 - Elements in sky blue are waiting for additional funding.
1. MyPlan Collaboration Center: A primary entry point to CHAMPS and supports database population and access to all planning information and materials. Sub elements include:
 - a. Turbo LTRP, a user friendly interface for use by the Long Term Recovery Council to upload and access all text, graphics, and supporting materials associated with the Long Term Recover Plan.
 - b. Turbo DMA, a user friendly interface for local and state planners to upload and access all text, graphics, and supporting materials associated with the Disaster Mitigation Act hazard mitigation plans.
 - c. MyLosses, a standardized location-based approach for updating and tracking actual losses and event information.

- d. MyRisks, a workflow process used to direct users toward a standardized process and approach for assessing natural and manmade hazard risks.
 - e. MyActions, a standardized submodule for capturing state and local mitigation actions by location, type, and other prioritization criteria.
 - f. MyDashboard, provides a user-customized page for organizing above content and providing web-based collaboration and plan support.
- 2. MyGrants Collaboration Center: Another primary access point to CHAMPS which supports state and local grants management.
 - a. Grant Workflow, a grants tracking system which reports current status of both project and planning grants by location and performance.
 - b. Criteria Ranker, allows authorized users to establish ranking criteria that can be used to prioritize grants based on type, location, or other needs.
 - c. Smart Grant, aligns mitigation actions, including projects or planning efforts to best available funding sources.
 - d. MyDashboard, provides a user-customized page for organizing above content and web-based collaboration for grant support.
- 3. Database Warehouses: This information will reside as relational database tables within the CHAMPS framework.
 - a. Grant Info Repository, stores information pertaining to past, active, and future grants including general grant descriptions, eligibility requirements, and associated past and active projects funded throughout the Commonwealth.
 - b. Risk/Losses Repository, stores all risk-related information, including geographic based results of risk assessments and actual losses incurred.
 - c. Plan Repository, stores the individual elements of each plan as provided through the 'turbo' interfaces previously described.
 - d. Mitigation Activities Repository, stores locations and characteristics of all past, present, and proposed mitigation actions.
- 4. Decision Support: This is comprised of customized functions designed to query, analyze, and report results back to users through both collaboration centers.
 - a. Loss Analysis, calculates and compares predicted losses for an area and actual losses recorded through MyLosses subcomponent. Function will also support both future and actual losses avoided based upon past or proposed mitigation actions.
 - b. Grant AI, an artificial intelligence element that matches mitigation actions and proposed activities to most appropriate funding sources (i.e. Linking needs to grants).
 - c. Risk Analysis, customized routines aligned to standardize and normalize hazard-based risk assessment approaches and results throughout the Commonwealth.
 - d. Iteration Tracker, a utility that manages plan and data versioning to support historical reporting and compliance with DMA 2000 update requirements.
 - e. Prioritization Tracker, a process for collecting, managing, and prioritizing unmet needs and mitigation actions based upon user-provided criteria.

Results will deliver automated prioritization schemes to help focus funding and annual mitigation strategies.

- f. Grant Management, grant-based information is analyzed against performance metrics including scope, schedule, and budget in this component. Results will report snapshots of grant health and status.
5. Miscellaneous Elements: In addition to the core function of CHAMPS, multiple elements are considered and leveraged to make this system complete.
- a. GIS, state-based geographic information will be leverage create base mapping from which users may locate mitigation actions, populate areas of loss, and increase risk awareness by geographically viewing vulnerability and mitigation opportunities.
 - b. ITEAMS, is an existing management system for maintaining contact information for various user groups throughout the state.
 - c. Role Manager, will integrate with ITEAMS to ensure that only authorized users are allowed CHAMPS access. Under this sub-module, role-based functionality within CHAMPS will be developed and deployed.

Appendix 5: State Hazard Mitigation Team (SHMT) Agendas



EMERGENCY MANAGEMENT

Stephen Beshear
Governor

100 Airport Road – Third Floor
Frankfort, KY 40601-8168

BG John W. Heltzel
Director

Mitigation Team Meeting
100 Airport Road, 3rd Fl.
Frankfort, KY 40601

Wednesday, October 21, 2009
1:00 PM

AGENDA

- I. Welcome and Introductions
- II. Introductions of new members
- III. University of Louisville State Plan Update
- IV. University of Kentucky Brief Update
- V. Update of DR-1818
- VI. By-Laws Review
- VII. Brief overview of DR-1841
- VIII. Funds Available
- IX. Letters of Intent
 - Regular Projects – Ranking Determined in State Plan
 - Initiative Projects – SHMT Selection Process
- X. Closing comments & suggestions
- XI. Next Meeting – November 25, 2009



EMERGENCY MANAGEMENT

Stephen Beshear
Governor

100 Airport Road – Third Floor
Frankfort, KY 40601-6168

BG John W. Heltzel
Director

State Hazard Mitigation Team Meeting
100 Airport Road, 3rd Floor
Frankfort, KY 40601

Wednesday, November 25, 2009
1:00 PM

AGENDA

- I. Welcome and Introductions**
- II. Status of DR-1841 projects**
- III. University of Kentucky brief update**
- IV. General Heltzel**
- V. Closing comments & suggestions**
- VI. Next Meeting – December 11, 2009**

HAPPY THANKSGIVING!!



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EMERGENCY MANAGEMENT

Steven Beshear
Governor

100 Airport Road – Third Floor
Frankfort, KY 40601-8188

BG John W. Heltzel
Director

State Hazard Mitigation Team Meeting
100 Airport Road, 3rd Floor
Frankfort, KY 40601

Friday, December 11, 2009
1:00 PM

AGENDA

- I. Welcome**
- II. State Plan Update – Josh Human, U of L**
- III. Mitigation Project Update – Brian Gathy, UK**
- IV. Submissions for DR-1818**
- V. Closing comments & suggestions**
- VI. Next Meeting – January 21, 2010**

Merry Christmas!!



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EMERGENCY MANAGEMENT

Steven Beshear
Governor

100 Airport Road – Third Floor
Frankfort, KY 40601-8188

BG John W. Heltzel
Director

State Hazard Mitigation Team Meeting
100 Airport Road, 3rd Floor
Frankfort, KY 40601

Thursday, January 21, 2010
1:00 PM

AGENDA

- I. Welcome
- II. Stakeholder Meeting Recap – Josh Human, U of L
- III. State Plan Update (Planning Process) – Josh Human, U of L
- IV. Applicant Briefing Review – Brian Gathy, UK
- V. Project Update – Leslie Mahoney, KyEM
- VI. DR-1855 Timeline – Leslie Mahoney, KyEM
- VII. Closing comments & suggestions
- VIII. Next Meeting – February 18, 2010



EMERGENCY MANAGEMENT

Steven Beshear
Governor

100 Airport Road – Third Floor
Frankfort, KY 40601-6168

BG John W. Heltzel
Director

State Hazard Mitigation Team Meeting
100 Airport Road, 3rd Floor
Frankfort, KY 40601

Thursday, February 18, 2010
1:00 PM

AGENDA

- I. Welcome
- II. State Plan Update (Risk Assessment) – Josh Human, U of L
- III. Project Update – Brian Gathy, UK
- IV. Closing comments & suggestions
- V. Next Meeting – March 25, 2010



EMERGENCY MANAGEMENT

Steven Beshear
Governor

100 Airport Road – Third Floor
Frankfort, KY 40601-6168

BG John W. Heltzel
Director

State Hazard Mitigation Team Meeting
100 Minute Man Way
TAG Conference Room
Frankfort, KY 40601

Thursday, April 1, 2010
1:00 PM

AGENDA

- I. Welcome
- II. State Plan Update (Mitigation Strategy) – Josh Human, U of L
- III. Local Plan Update – Emily Frank, UK
- IV. Closing comments & suggestions
- V. Next Meeting – May 6, 2010



EMERGENCY MANAGEMENT

Steven Beshear
Governor

100 Airport Road – Third Floor
Frankfort, KY 40601-8168

BG John W. Heltzel
Director

State Hazard Mitigation Team Meeting
Capital Hotel
Frankfort, KY 40601

Thursday, May 26, 2010
1:00 – 3:30 PM

AGENDA

- I. Welcome
- II. 2010 State Hazard Mitigation Plan Update Review
- III. Closing comments & suggestions
- IV. Next Meeting – June 16, 2010

Appendix 6: Agency Invitation Letter



EMERGENCY MANAGEMENT

Stephen Beshear
Governor

100 Airport Road – Third Floor
Frankfort, KY 40601-6168

BG John W. Heltzel
Director

November 24, 2009

RE: State Hazard Mitigation Plan Update
Kickoff Meeting – January 6, 2010

Dear

The Federal Disaster Mitigation Act of 2000 requires all states to develop a plan which identifies and reduces vulnerability to losses attributable to natural hazards such as flooding, tornadoes, and earthquakes. The Disaster Mitigation Act also requires each state to review and update its plan every three years. Successful planning and updates are dependent on active participation and collaboration between federal, state, regional, and local agencies as well as interested private entities.

The Federal Emergency Management Agency (FEMA) last approved Kentucky's mitigation plan in 2007. The State Hazard Mitigation Plan must now undergo a comprehensive review and be updated before October 28, 2010. As mandated by Federal law, non-emergency assistance for communities affected by major disasters after that date will not be available unless the state's plan has been updated and has received approval by FEMA. Over the past five (5) years communities across Kentucky have received over \$100 million in hazard mitigation grants. I ask you to join with fellow Kentuckians to ensure a successful outcome to this update endeavor.

The Kentucky Division of Emergency Management Mitigation Program has contracted with Dr. David Simpson and Josh Human, of the Center for Hazards Research and Policy Development at the University of Louisville, to facilitate the update. Their office will be seeking your agency's assistance and participation in this vital planning and update process. Your agency may also be requested to provide data related to disasters and their impact on Kentucky.

I urge you or an assigned liaison to represent your entity and provide the requested information. You will be asked to attend three meetings between now and the fall of 2010, and offer comments on the draft document as it pertains to your agency.

The first of these meetings is scheduled for 8:30am – 12:00pm on January 6, 2010. The meeting will be held in the Kentucky Transportation Cabinet Building Auditorium located at 200 Mero Street Frankfort, KY 40622. It is very important that a liaison from your office participates in this meeting to update the state hazard mitigation plan.



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Hazard Mitigation Plan Update

November 24, 2009

Page 2

Please notify the University of Louisville Project Leader Sara Evans (sara.evans@louisville.edu or 502-852-1588) or Project Manager Josh Human (josh.human@louisville.edu or 502-852-8922) and provide contact information (phone number and e-mail preferably). The University of Louisville staff will keep all participants informed regarding meeting plans and agendas.

If you have any questions or require additional information regarding the State Mitigation Plan update process, please do not hesitate to contact Leslie Mahoney, the State Hazard Mitigation Officer via email at: KYEMRecovery@ng.army.mil or toll free: 1-877-634-8175.

Thank you in advance for your participation in this important commitment to protecting Kentuckians from the risks of natural hazards.

Sincerely,

Brigadier General John W. Heltzel, Director
Kentucky Division of Emergency Management

Appendix 7: Legislative Invitation Letter



EMERGENCY MANAGEMENT

Stephen Beshear
Governor

100 Airport Road – Third Floor
Frankfort, KY 40601-6168

BG John W. Heltzel
Director

November 24, 2009

RE: State Hazard Mitigation Plan Update
Kickoff Meeting – January 6, 2010

Dear

The Federal Disaster Mitigation Act of 2000 requires all states to develop a plan which identifies and reduces vulnerability to losses attributable to natural hazards such as flooding, tornadoes, and earthquakes. The Disaster Mitigation Act also requires each state to review and update its plan every three years. Successful planning and updates are dependent on active participation and collaboration between federal, state, regional, and local agencies as well as interested private entities.

The Federal Emergency Management Agency (FEMA) last approved Kentucky's mitigation plan in 2007. The State Hazard Mitigation Plan must now undergo a comprehensive review and be updated before October 28, 2010. As mandated by Federal law, non-emergency assistance for communities affected by major disasters after that date will not be available unless the state's plan has been updated and has received approval by FEMA. Over the past five (5) years communities across Kentucky have received over \$100 million in hazard mitigation grants. I ask you to join with fellow Kentuckians to ensure a successful outcome to this update endeavor.

The Kentucky Division of Emergency Management Mitigation Program has contracted with Dr. David Simpson and Josh Human, of the Center for Hazards Research and Policy Development at the University of Louisville, to facilitate the update. Their office will be seeking your agency's assistance and participation in this vital planning and update process. Your agency may also be requested to provide data related to disasters and their impact on Kentucky.

We welcome and encourage your participation in this process. If you cannot attend, we also welcome any key staff members attending on your behalf.

The first of these meetings is scheduled for 8:30am – 12:00pm on January 6, 2010. The meeting will be held in the Kentucky Transportation Cabinet Building Auditorium located at 200 Mero Street Frankfort, KY 40622. It is very important that a liaison from your office participates in this meeting to update the state hazard mitigation plan.



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Hazard Mitigation Plan Update
November 24, 2009
Page 2

If you or a Legislative Research Commission staff member plans on participating, please notify the University of Louisville Project Leader Sara Evans (sara.evans@louisville.edu or 502-852-1588) or Project Manager Josh Human (josh.human@louisville.edu or 502-852-8922) and provide contact information (phone number and e-mail preferably). The University of Louisville staff will keep all participants informed regarding meeting plans and agendas.

If you have any questions or require additional information regarding the State Mitigation Plan update process, please do not hesitate to contact Leslie Mahoney, the State Hazard Mitigation Officer via email at: KYEMRecovery@ng.army.mil or toll free: 1-877-634-8175.

Thank you in advance for your participation in this important commitment to protecting Kentuckians from the risks of natural hazards.

Sincerely,

Brigadier General John W. Heltzel, Director
Kentucky Division of Emergency Management

Appendix 8: Organization Stakeholder Meeting Attendance 2010

Agency	1/6/2010	4/12/2010	5/26/2010
American Red Cross	X	X	
AML	X	X	
APA-KY	X		
Barren County	X		
Bell County Emergency Management	X	X	
Berea College	X	X	
BGADD	X	X	
Big Rivers Electric	X		
Blue Grass Energy	X		
Boone County EMA		X	
Boyle County EMA			X
Bracken County EMA		X	
Breckinridge County Fiscal Court	X		
Brescia University	X		
BSADD	X	X	X
BTADD	X	X	X
Carlsile County Emergency Management	X		
Centre College	X		
CFD	X		
City of Campbellsville	X	X	
City of Earlington		X	
City of Florence	X	X	
City of Madisonville	X		
City of Providence	X		
City of Richmond		X	
City of Russellville	X	X	X
City of Shively	X	X	X
City of Versailles	X		
City of Winchester	X		
Clark County Emergency Management	X		
Corps of Engineers	X		
Corps of Engineers	X		
COT	X		
COT/DGI	X	X	X
CPE	X		
CPE	X		
CVADD	X	X	

Agency	1/6/2010	4/12/2010	5/26/2010
Danville-Boyle County Emergency Management	X	X	
Daviess County Emergency Management		X	
Dawson Springs Police Department	X		
DEDI	X		X
DEDI	X		X
Division of Air Quality	X		
Division of Air Quality	X		
DLG	X	X	X
DLG	X		X
DPH	X	X	
East Kentucky Power Coop	X		X
East Kentucky Power Coop	X		X
Eddyville Police Department	X		
Education	X		
Electric Coop	X	X	
EON-US		X	
Estill County Emergency Management	X		
FIVCO ADD	X	X	
Fleming County Emergency Management	X		
Forestry	X	X	
Franklin County Fiscal Court	X	X	
GADD	X	X	X
Gallatin EMS		X	
Garrard County Emergency Management	X	X	X
Georgetown College	X		
Glasgow/Barren Emergency Management	X		
GRADD	X		
Grayson County	X		
Grayson County Fiscal Court	X		
Hardin County Judge/Exec	X		
Hart County Emergency Management	X		
HCFC		X	
HCCPC	X		
Henry County Emergency Management	X		
Hopkins County Emergency Management	X		
Hopkins County Emergency Management	X		
KCADD	X		
KDOW	X	X	X
Kentucky Christian University	X		
Kentucky State University	X		X

Agency	1/6/2010	4/12/2010	5/26/2010
Kentucky Wesleyan College	X		
KCTCS		X	
KIPDA			X
KLC	X		
KMUA	X		
KOHS	X	X	X
KRADD	X	X	
KY Council of ADDs		X	X
KY Department of Agriculture	X		X
KY Department of Fish & Wildlife	X		
Ky Department of Energy	X	X	
KY Hospital Association	X		X
KY Housing Corp.		X	
KY Labor Cabinet	X		
Ky Public Service Com	X		
KY State Police	X		
KyEM	X	X	X
KYTC	X	X	
Laurel County Health Department		X	
LCADD	X	X	
LFUCG DEM	X	X	X
Louisville Metro Emergency Management	X	X	X
Louisville Water Company		X	
LTADD	X	X	X
Madison County Emergency Management	X	X	
Magoffin County	X		
Marion County (Judge/Exec.)	X	X	
Marion County Emergency Management	X		
Marshall County Emergency Management		X	
McCracken County Fiscal Court	X		
McCracken County Emergency Management	X		X
Metcalfe County Emergency Management	X	X	
Midway College	X		
Morehead State University	X		
Murray State University	X		
NKADD	X		
NKADD	X		
NWS	X		X
NWS-Jackson	X		
Oldham County	X		

Agency	1/6/2010	4/12/2010	5/26/2010
Oldham County Emergency Management	X	X	
OMU	X		
PADD	X		
Pendleton County Emergency Management	X	X	
Pendleton County Fiscal Court	X		
Pulaski County	X		
Representative Hal Rogers	X		
Shelby County Emergency Management	X	X	
Southern Baptist Theological Seminary	X		
Spadling University	X		
Stantec Consulting	X		X
State Fire Marshal	X		
Taylor County Emergency Management	X		
Taylor County Fiscal Court	X		
Todd County	X		
Tourism, Arts, & Heritage	X		
Transportation	X		
Transylvania University	X		
Travel & Tourism	X		
Trigg County Judge/Exec.	X		
Trimble County Emergency Management	X		
TVA	X		
UK-HMGP	X	X	X
UK OEM	X		
UK-KyGS	X	X	
University of the Cumberlands	X		
URS			X
USGS	X	X	X
Washington County Emergency Management	X	X	
Washington County Fiscal Court	X	X	
Webster County Emergency Management	X		
Whayne Supply Co	X		
Whitley County Fiscal Court		X	
Woodford County Emergency Management	X		

Appendix 9: Mitigation Action Report Example

Hazard Mitigation Actions Report

*****EXAMPLE*****

Kentucky State Hazard Mitigation: Project/Action Report	
Date:	
Name of Contact:	Jim Tandy
Contact Title:	Director
Telephone Number:	502-852-0777
E-Mail Address:	Jim.Tandy@usgs.gov
Facsimile Number:	502-852-0000
• What is the name of your organization? USGS.	
• Please list any hazard mitigation projects/ actions that your organization has funded and/or carried out since the inception of the Kentucky State Hazard Mitigation Plan in 2007. Flood Wall: 2008 Education Outreach: Ongoing	
• Who is the Lead Implementer or Contact Person for the mitigation project? Jim Tandy	
• Are there other partners or stakeholders, and if yes, please list? KGS, KDOW, FEMA	
• What hazards does this project address? Flooding, earthquakes, all hazards	
• What are the funding sources for this project? FEMA and USGS	
• What is the total cost of this project? Floodwall: \$100,000 Outreach: \$10,000	

<ul style="list-style-type: none"> Why was this project undertaken? What problem did this project reduce or eliminate? <p>Floodwall: Prevent flood damage to 130 structures.</p> <p>Outreach: Educating citizens on earthquake preparedness.</p>
<ul style="list-style-type: none"> Where was this project carried out? <p>Floodwall: Louisville and Radcliff</p> <p>Outreach: Jefferson and Hardin Counties</p>
<ul style="list-style-type: none"> Is this project ongoing or one time? <p>Floodwall: one time</p> <p>Outreach: on-going</p>
<ul style="list-style-type: none"> What was the time period of the project? <p>Floodwall: March 07 – July 08</p> <p>Outreach: Nov 08 – Present</p>
<ul style="list-style-type: none"> Additional Comments: <p>Floodwall: During the flood of September 22, 2008 the floodwall protected all 130 structures.</p> <p>Outreach: We have seen higher participation in the Statewide Earthquake drill since the education outreach program began.</p>

Appendix 10: Hazard Mitigation Action Categories and Techniques

Prevention

Preventative activities are intended to keep hazard problems from worsening. They are particularly effective in reducing a community's future vulnerability, especially in areas where development has not occurred or capital improvements have not been substantial. Examples of preventative activities include:

- Planning and zoning
- Open space preservation
- Floodplain regulations
- Storm water management
- Drainage system maintenance
- Capital improvements programming
- Riverine / fault zone setbacks

Property Protection

Property protection measures protect existing structures by modifying the building to withstand hazardous events or removing structures from hazardous locations.

Examples include:

- Acquisition
- Relocation
- Building elevation
- Critical facilities protection
- Retrofitting (i.e., windproofing, floodproofing, seismic design standards, etc.)
- Insurance
- Safe rooms

Natural Resource Protection

Natural resource protection activities reduce the impact of natural hazards by preserving or restoring natural areas and their mitigative functions. Such areas include floodplains, wetlands, and dunes. Parks, recreation, or conservation agencies and organizations often implement these measures. Examples include:

- Floodplain protection
- Riparian buffers
- Fire resistant landscaping
- Fuel Breaks
- Erosion and sediment control
- Wetland preservation and restoration
- Habitat preservation
- Slope stabilization

Structural Projects

Structural mitigation projects are intended to lessen the impact of a hazard by modifying the environmental natural progression of the hazard event. They are usually designed by engineers and managed or maintained by public works staff. Examples include:

- Reservoirs
- Levees, dikes, floodwalls
- Diversions, detentions, retentions
- Channel modification
- Storm sewers

Emergency Services

Although not typically considered a “mitigation technique,” emergency service measures do minimize the impact of a hazard event on people and property. These commonly are actions taken immediately prior to, during, or in response to a hazard event. Examples include:

- Warning systems
- Evacuation planning and management
- Sandbagging for flood protection
- Installing shutters for wind protection

Public Information and Awareness

Public Information and awareness activities are used to advise residents, business owners, potential property buyers, and visitors about hazards, hazardous areas, and mitigation techniques which can be used to protect themselves and their property. Examples of measures to educate and inform the public include:

- Outreach projects
- Speaker series and demonstration events
- Hazard map information
- Real estate disclosures
- Library materials
- School children education
- Hazard expositions

Appendix 11: 1st Stakeholder Workshop Agenda



2010 Kentucky Enhanced State Hazard Mitigation Plan

1st Stakeholder Workshop

January 6, 2010

Kentucky Transportation Cabinet Office Building Conference Center: Room C105

AGENDA

8:00 - 9:00 AM	Registration (Room C105)
9:00 – 9:30 AM	Welcome and Opening Comments John Heltzel, Director Kentucky Division of Emergency Management
9:30 – 10:15 AM	Overview of an Enhanced State Hazard Mitigation Plan and the future “CHAMPS” Josh Human, Associate Director Center for Hazards Research and Policy Development
10:15– 10:30 AM	Overview of Data Needs and Action Reports Josh Human, Associate Director Center for Hazards Research and Policy Development
10:30 – 10:45 AM	Overview of Mitigation Grants Leslie Mahoney, State Hazard Mitigation Officer Kentucky Division of Emergency Management
10:45 – 11:00 AM	Break
11:00 – 11:50 AM	Break Out Session Available Data Hazard Mitigation Actions Report Overview Use of State Plan
11:50 AM	Reconvene
11:50-12:00 PM	Closing Remarks, Next Meeting Discussion

Appendix 12: State and Local Capability Survey Example

Agency Name	Programs Plans, Policies, Funding, or Practices	Pre-Disaster	Post-Disaster	Affects Development in Hazard Prone Areas	Capable of Funding Mitigation Initiatives	Hazard Mitigation Application
KY Association of Counties (KACo)	KACo Leasing Trust Program (COLT)	X			X	Formed in 1989 and designed to offer county governments and their related political subdivisions an efficient method of financing for a wide variety of capital projects, including construction, renovation, equipment purchases or even grant anticipation. Since 1996, CoLT has offered general obligation leases for any governmental purpose. Leases can be made for any amount needed and for terms of 30 days and up to 30 years.
Kentucky League of Cities	Renaissance Kentucky	X		X	X	An effort to bring together communities and resources necessary to revitalize and restore the Commonwealth's downtown areas. DLG, the new lead agency, partners with the Kentucky Heritage Council, the Kentucky League of Cities, and the Kentucky Housing Corporation and the Transportation Cabinet in implementing this program.

Appendix 13: 2nd Stakeholder Workshop Agenda



2010 Kentucky Enhanced State Hazard Mitigation Plan Second Stakeholder Workshop

April 12, 2010

Kentucky Transportation Cabinet Office Building Conference Center: Room C105

AGENDA

12:00 – 1:00 PM	Registration (Room C105)
1:00 – 1:15 PM	Welcome and Opening Comments John Heltzel, Director Kentucky Division of Emergency Management
1:15 – 1:45 PM	Overview of Risk Assessment Josh Human, Associate Director Center for Hazards Research and Policy Development
1:45 – 2:00 PM	Overview of Mitigation Strategy Josh Human, Associate Director Center for Hazards Research and Policy Development
2:00 – 2:30 PM	Hazard Mitigation Project Identification Leslie Mahoney, State Hazard Mitigation Officer Kentucky Division of Emergency Management
2:30 – 3:00 PM	Overview of Mitigation Action Reports Matthew Greer, Research Associate Center for Hazards and Policy Development
3:00 – 3:15 PM	State/Local Capability Survey Josh Human, Associate Director Center for Hazards Research and Policy Development
3:15 – 3:30 PM	Closing Remarks, Next Meeting Discussion

Appendix 14: 3rd Stakeholder Workshop Agenda



2010 Kentucky Enhanced State Hazard Mitigation Plan

Second Stakeholder Workshop

May, 26th 2010

Capital Plaza Hotel Downtown Frankfort – Ball Room 2

AGENDA

12:00 – 1:00 PM	Registration: Ball Room 2
1:00 – 1:10 PM	Welcome and Opening Comments John Heltzel, Director Kentucky Division of Emergency Management
1:10 – 1:50 PM	Planning Process and Risk Assessment Section Josh Human, Associate Director Center for Hazards Research and Policy Development
1:50 – 2:00 PM	Break
2:00 – 2:15 PM	Mitigation Strategy Section Josh Human, Associate Director Center for Hazards Research and Policy Development
2:15 – 2:30 PM	Coordination of Local Mitigation Planning Section Emily Frank, UK Planning Program Coordinator University of Kentucky HMGP Office
2:30 – 2:40 PM	Plan Maintenance Section Josh Human, Associate Director Center for Hazards Research and Policy Development
2:40 – 3:10 PM	Welcome to CHAMPS Josh Human, Associate Director Center for Hazards Research and Policy Development
3:15 – 3:30 PM	Closing Remarks

Appendix 15: 2007 – 2010 Presidential Declarations

FEMA-1746-DR

Severe Storms, Tornadoes, Straight-line Winds, and Flooding
Incident Period: February 5-6, 2008

DESIGNATIONS

Individual Assistance

Public Assistance

Applicants: 62

Total Public Assistance Values: \$6,080,496

Hazard Mitigation Grant Program

Funds Available: \$3,175,000

Amount Awarded to Date: \$2,921,214

FEMA-1757-DR

Severe Storms Tornadoes, Flooding, Mudslides, and Landslides
Incident Period: April 3-4, 2008

DESIGNATIONS

Public Assistance

Number of Applicants: 29

Total Public Assistance Values: \$4,651,825

Hazard Mitigation Grant Program

Funds Available: \$679,334

Amount Awarded to Date: \$666,738

DISASTER SUMMARY

FEMA-1802-DR

Severe Wind Storm associated with Tropical Depression Ike
Incident Period: September 14-15, 2008

DESIGNATIONS

Public Assistance

Applicants: 256

Number of Projects: 529

Total Public Assistance Values: \$25,014,303

Hazard Mitigation Grant Program

Funds Available: \$4,955,206

Amount Awarded to Date: \$2,921,214

DISASTER SUMMARY

FEMA-1818-DR

Severe Winter Storm and Flooding
Incident Period: January 26, 2009 – February 13, 2009

DESIGNATIONS

Public Assistance

Number of Applicants: 786

Number of Projects: 2,320

Total Public Assistance Values: \$330,791,449

Hazard Mitigation Grant Program

Funds Available: \$64,991,339

Amount Awarded to Date: \$54,379,162

DISASTER SUMMARY

FEMA-1841-DR

Severe Storms, Tornadoes, Flooding, and Mudslides

Incident Period: May 3-20, 2009

DESIGNATIONS

Individual Assistance

Number of Approved Applicants: 3,731

Assistance Paid: \$15,035,616

Public Assistance

Number of Applicants: 60

Number of Projects: 1,381

Total Public Assistance Value: \$44,175,855

Hazard Mitigation Grant Program

Funds Available: \$13,146,117

Amount Awarded to Date: \$10,018,991

DISASTER SUMMARY

FEMA-1855-DR

Severe Storms, Straight-line Winds, and Flooding

Incident Period: August 4, 2008

DESIGNATIONS

Individual Assistance

Number of Applicants: 9,181

Assistance Paid: \$17,404,560

Public Assistance

Applicants: 47

Number of Projects: 247

Total Public Assistance Values: \$27,359,359,451

Hazard Mitigation Grant Program

Funds Available: \$9,780,915

Amount Awarded to Date: \$

DISASTER SUMMARY

FEMA-1912-DR

Severe Storms, Flooding, Mudslides, and Landslides

Incident Period: May 1, 2010

DESIGNATIONS

Individual Assistance

Number of Applicants: 3,200 (as of June 1, 2010)

Assistance Paid: \$ 8.4 Million (as of June 1, 2010)

Public Assistance

Estimated Applicants: 250

Number of Projects: 400

Estimated Public Assistance Values: \$ 60,000,000

Hazard Mitigation Grant Program

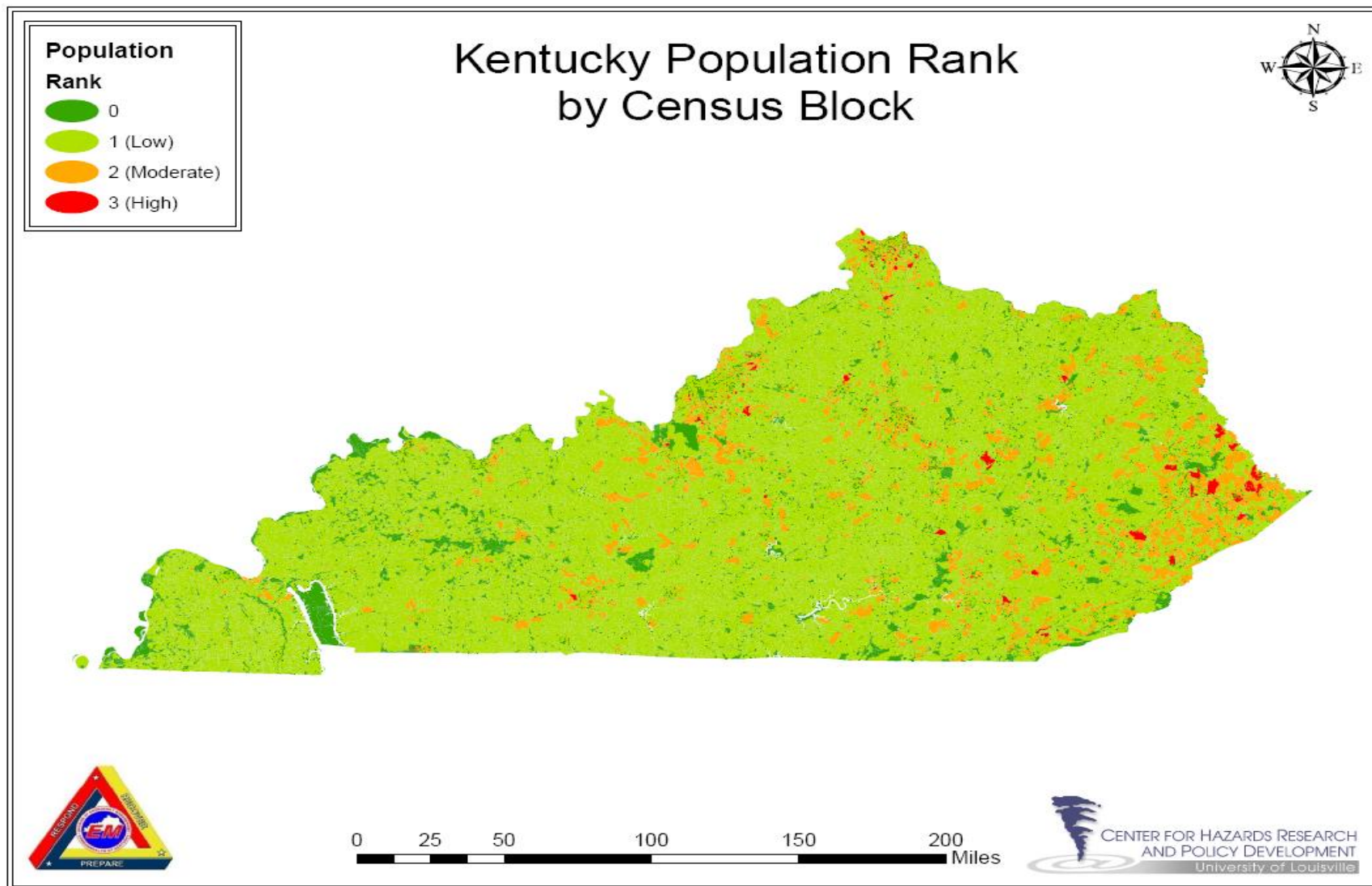
Estimated Funds: \$ To Be Determined

Amount Awarded to Date: \$ -0-

Appendix 16: Local Plan Hazard Comparison 2007

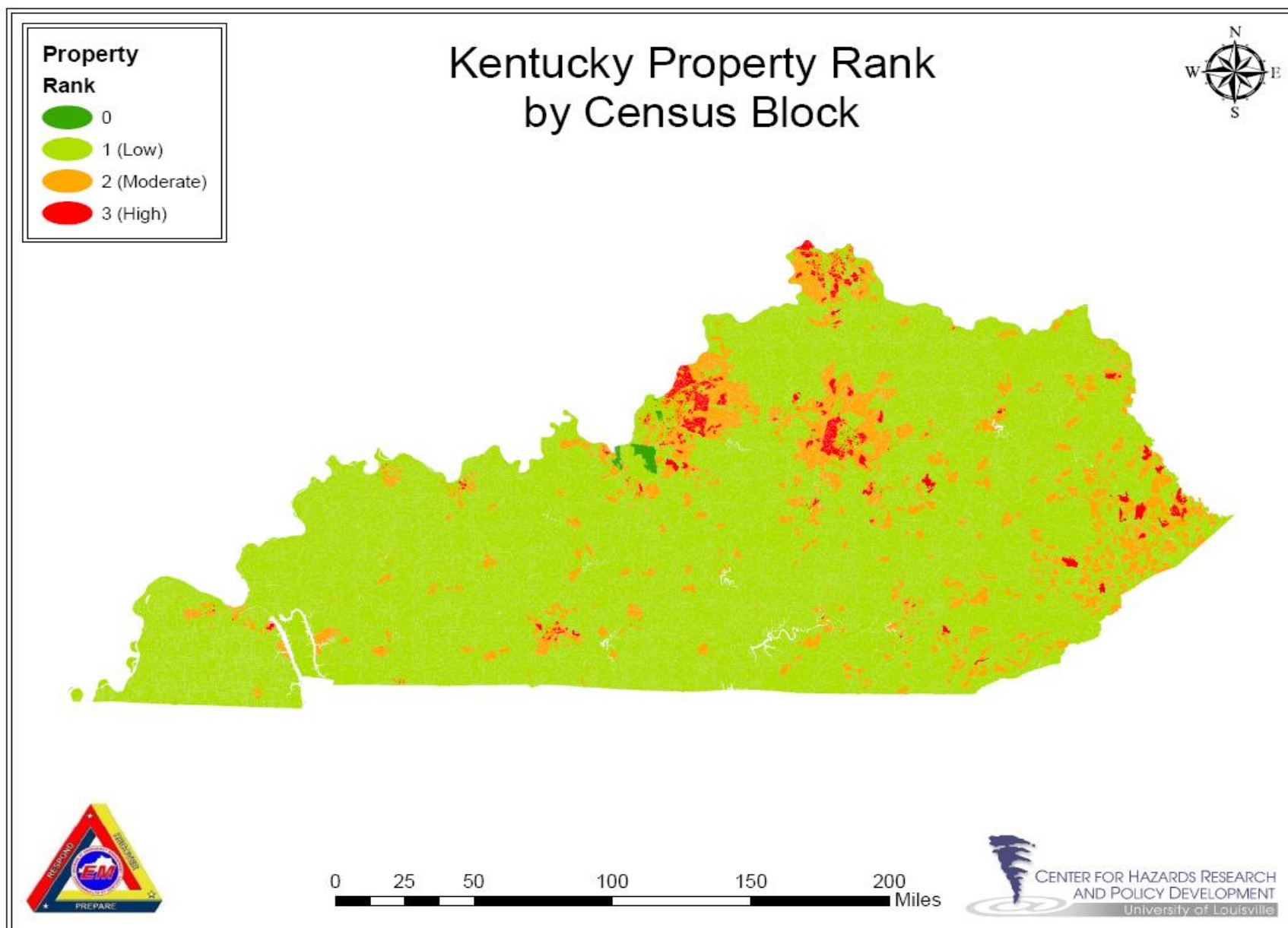
KY Hazard Profiles	BGADD	BRADD	BSADD	BTADD	CVADD	FIVCO	GADD	GRADD	KIPDA	KRADD	LCADD	LTADD	LFUCG	NKADD	PA
Dam Failure	✓	✓	✓	X	✓	✓	X	X	✓	✓	✓	✓	✓	✓	✓
Drought	✓	✓	✓	X	✓	✓	X	✓	✓	✓	✓	✓	✓	X	✓
Earthquake	✓	✓	X	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	X	✓
Flood	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Hailstorm	X	✓	✓	✓	X	X	✓	✓	X	✓	✓	✓	✓	✓	✓
Karst/Sinkhole	✓	✓	✓	X	X	X	X	X	X	X	✓	✓	✓	X	X
Land Subsidence	X	X	✓	X	X	X	X	✓	X	X	✓	✓	✓	X	X
Landslide	✓	✓	✓	✓	✓	✓	✓	X	✓	✓	✓	✓	✓	✓	✓
Severe Storm	✓	X	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Severe Winter Storm	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Tornado	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Wildfire	✓	X	✓	X	✓	✓	✓	X	✓	✓	✓	✓	✓	X	✓
Other Profiles		*			*	*					*	*			
Total Matching Profiles	10	9	11	6	9	9	8	8	9	10	12	12	12	7	10

Appendix 17: Exposure Scores



Population Rank Explanation

This layer was created using Population Data from the HAZUS-MH census block datasets. The data was then ranked 0-3 (0=N/A, 1=low, 3=high), using the Natural Breaks (Jenks) method provided in ArcGIS as a classification choice. This data should be used to show areas of exposure based on population levels at the census block level.

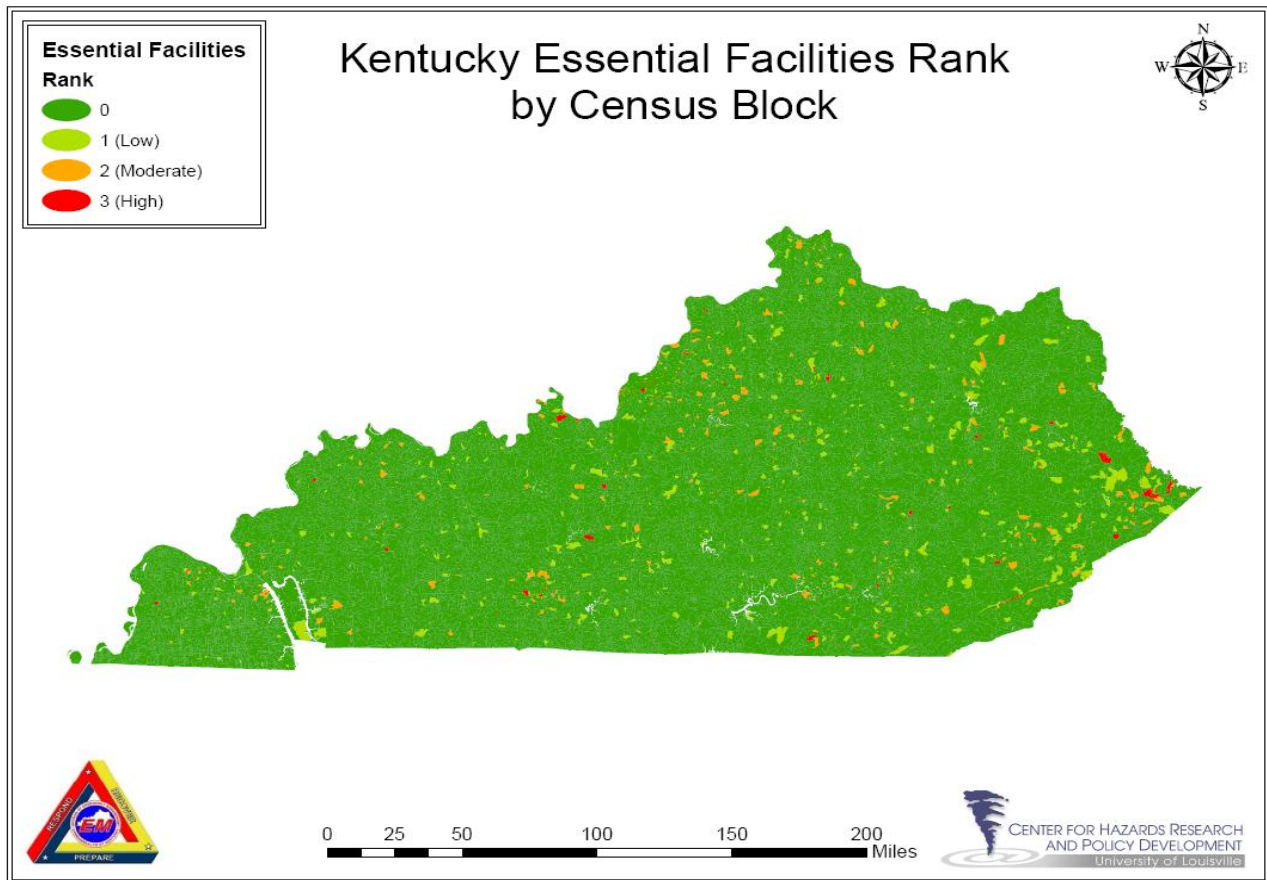


Property Explanation

Property exposure considers two variables:

1. The number of houses (residential classification, dwellings, etc.) were obtained from HAZUS-MH data. The data was then ranked 0-3 (0=N/A, 1=low, 3=high), using the Natural Breaks (Jenks) method provided in ArcGIS as a classification.
2. The average value of a home in each block was derived from HAZUS-MH data. It was scored in the same way as the first variable.

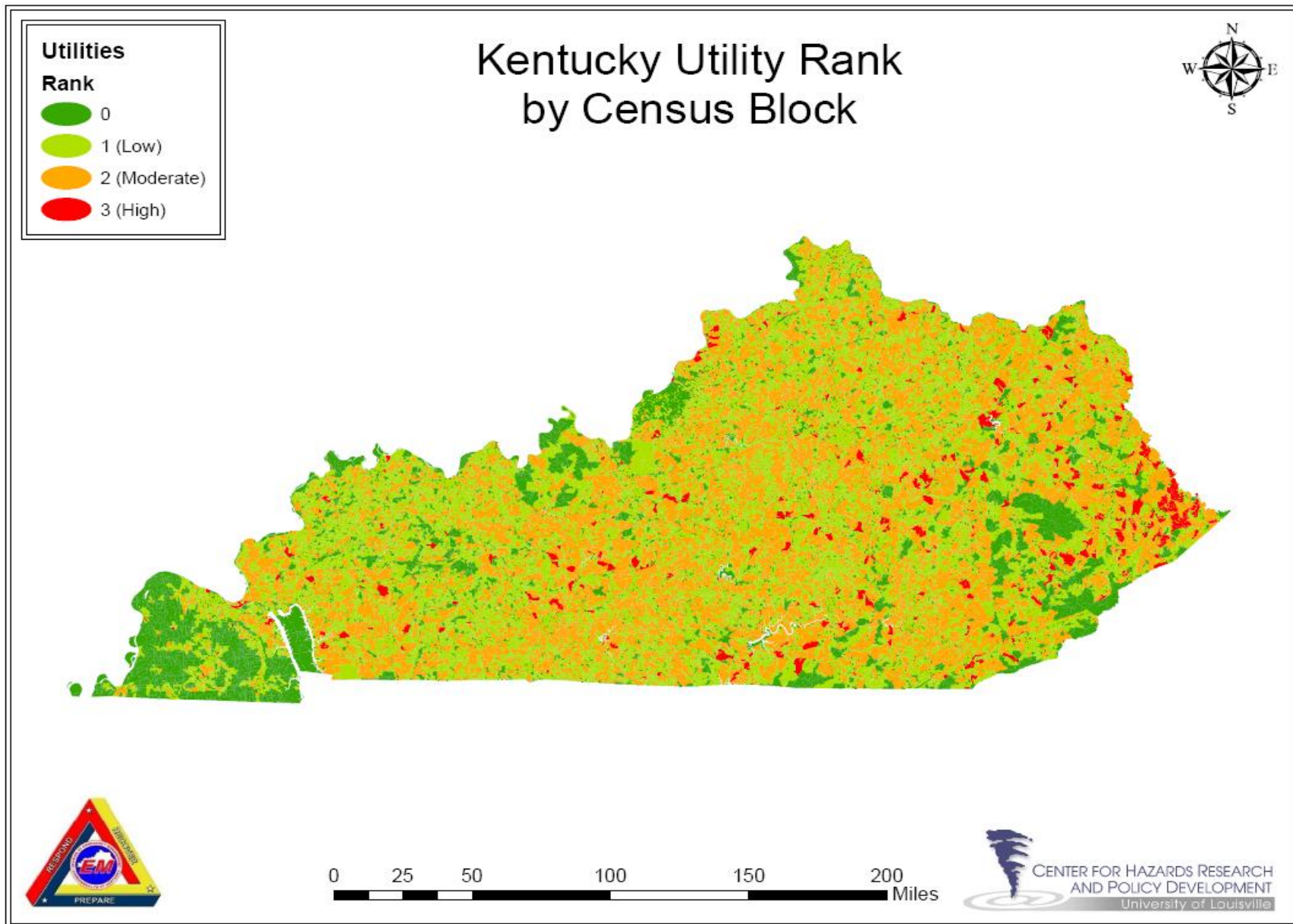
Both scores were combined and ranked again, using the natural breaks option and ranked 0-3 (0=N/A, 1=low, 3=high). Blocks with a 0 indicate an area where no buildings were recorded in the data. Blocks with a 3 show a significant risk both in potential loss of dwellings and of high monetary damages to property. *Note: This Data will be used in the Estimating Potential Losses by Jurisdiction.*



Essential Facilities Explanation

This data contains more facilities than the previous plan. This layer takes into consideration the following types of facilities: fire stations, police stations, prisons, primary schools, hospitals, emergency operation facilities, nursing homes, public health facilities, and emergency medical service facilities. Data was obtained through various sources including KyEM and DGI.

As with the other layers, each type of facility was totaled for each census block. When the total essential facilities for each block were calculated, the natural breaks method was again applied to give a score from 0-3 (0=N/A, 1=low, 3=high). The darker green areas (values of 0) do not have any identified essential facilities. The red blocks denote areas with several essential facilities (values of 3), resulting in a high exposure rating. Locations of these facilities were based on best available data.



Utilities Explanation

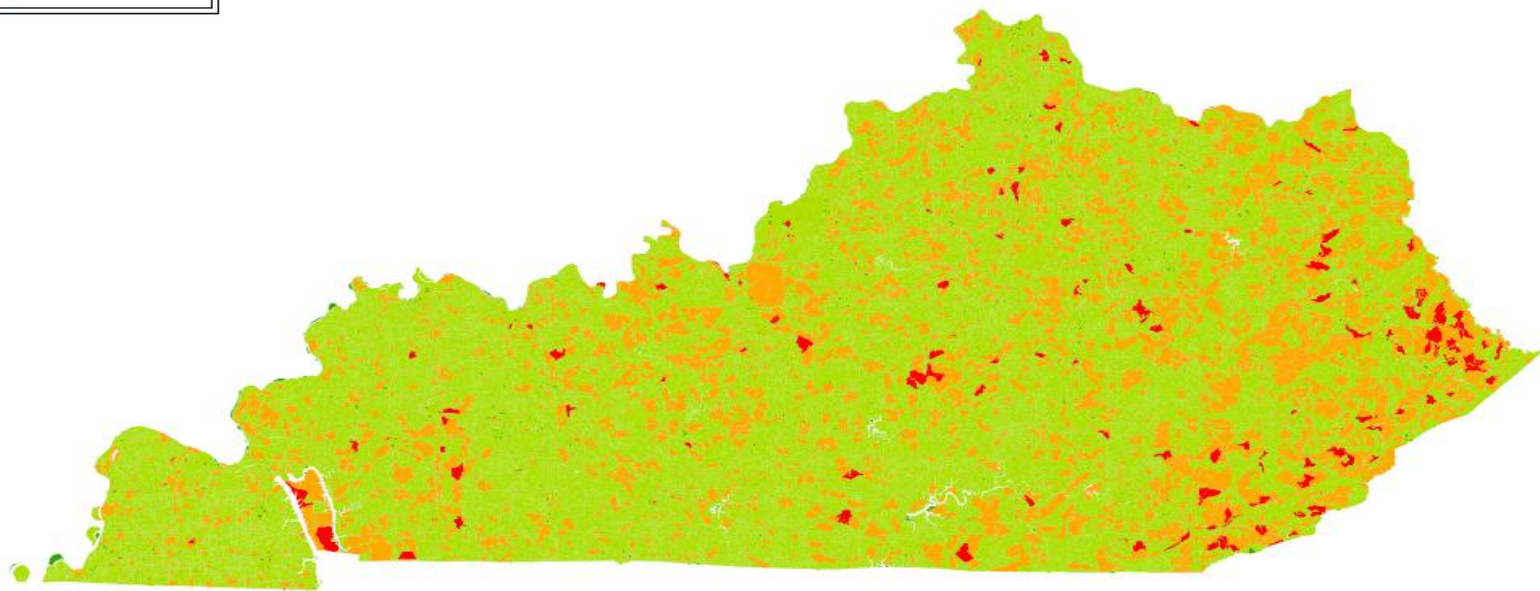
Different from the 2007 plan, utility facilities are now a separate consideration in this updated vulnerability assessment. Currently, CHR has evaluated the following for each census block in the Commonwealth: water pumps, water treatment plants, sewage treatment plants, water tanks, length of water lines, electric power plants, natural gas facilities, and oil facilities.

In a similar fashion as all the other layers, each block received a score based on a tally of critical utility counts; classified using the natural breaks method. The final score was then ranked 0-3 (0=N/A, 1=low, 3=high). A score of 0 indicates no utility exposure (no critical utility facilities present in the block). A score of 3 indicates a significant risk of exposure to a hazard event.

**Transportation
Rank**

- 0
- 1 (Low)
- 2 (Moderate)
- 3 (High)

Kentucky Transportation Rank by Census Block



0 25 50 100 150 200 Miles



Transportation Explanation

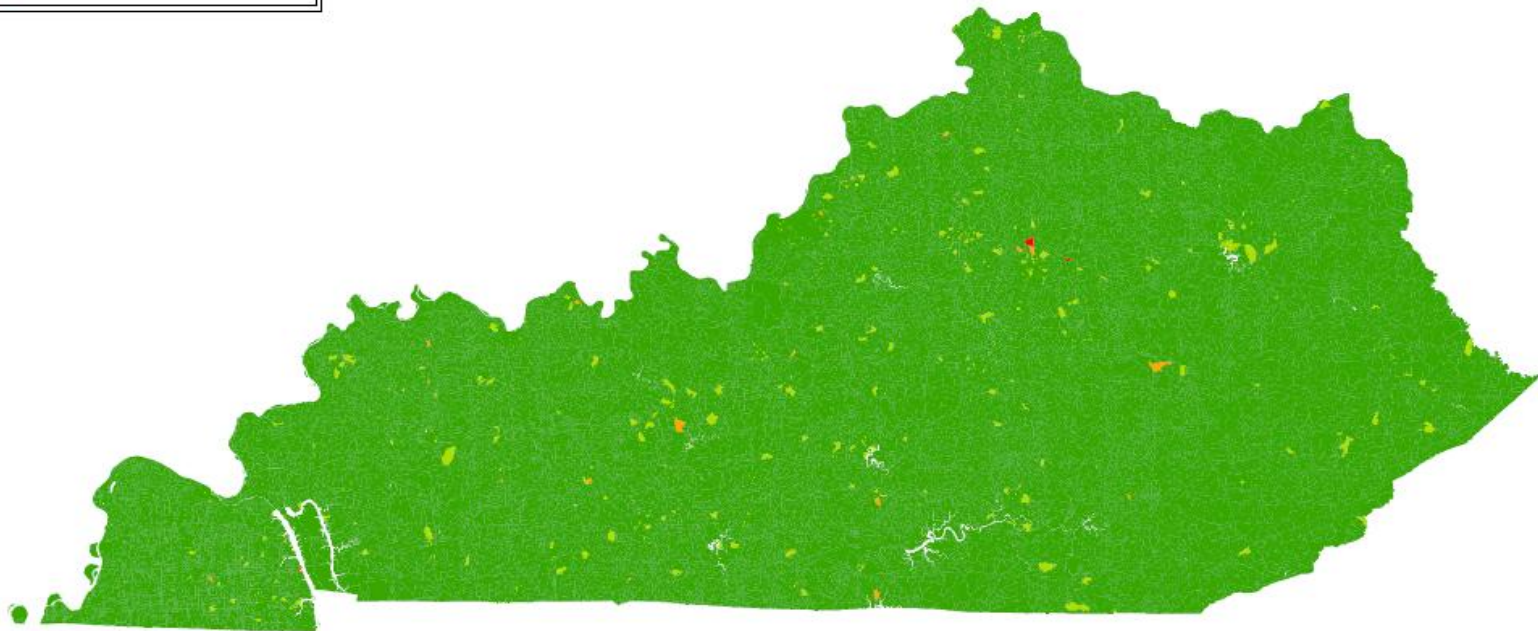
This particular layer was updated from the previous iteration of the plan. Using data collected from the KY Department of Transportation, KyEM, ESRI, as well as DGI, CHR put together a consolidation of transportation facilities as well as census blocks with higher concentrations of roads and railways. Airports, bridges, and transportation facilities were still the main focus of this layer. However, points from railway mile markers and lengths of major roads were also considered in the final exposure compilation.

The methodology for this layer is the same as the rest. The natural breaks classification was applied to assign a transportation exposure score from 0-3 (0=N/A, 1=low, 3=high). 0 indicates a block with no major highways, railways, or transportation facilities. For each block, a higher value (1 to 3) indicates significant amounts of infrastructure present that is susceptible to a hazard event.

**Government Facilities
Rank**

- 0
- 1 (Low)
- 2 (Moderate)
- 3 (High)

Kentucky Government Facilities Rank by Census Block



0 25 50 100 150 200 Miles



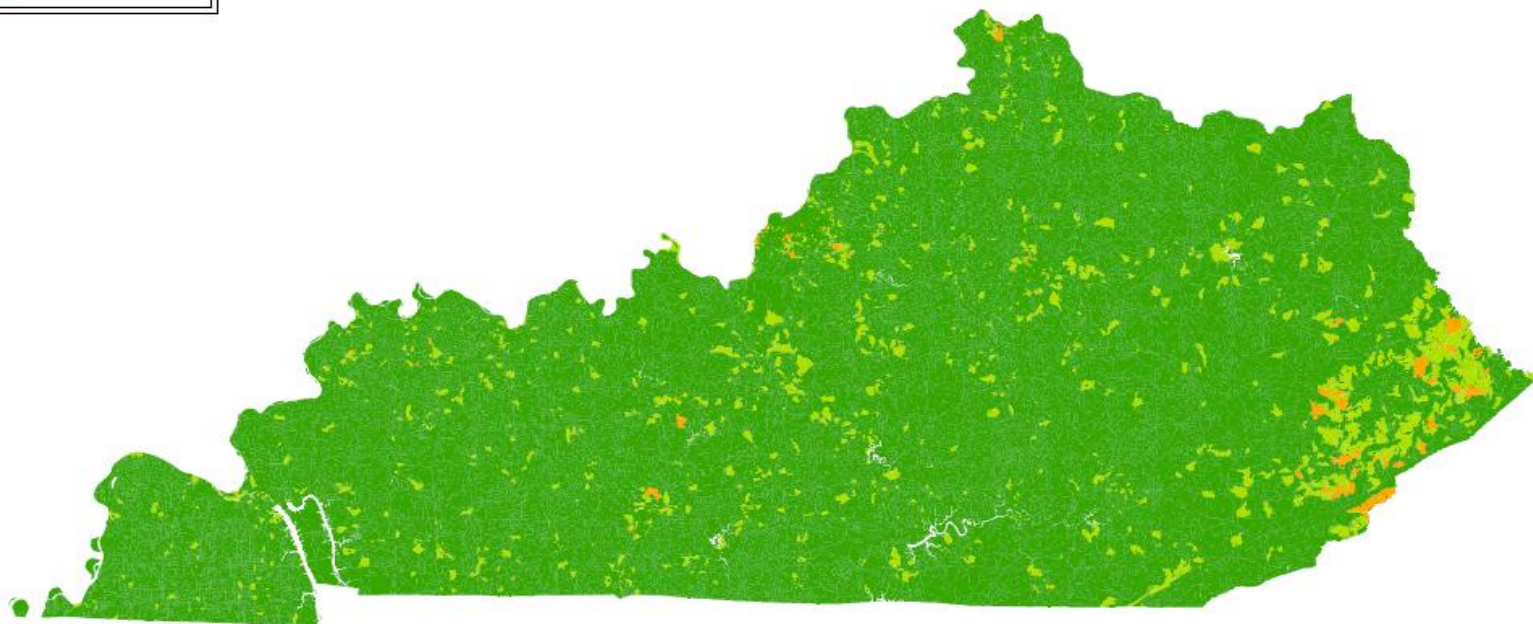
Government Owned Facilities Explanation

A new layer added to this plan update. Only facilities listed as being owned by the state were counted in this data layer. A table containing a list of addresses and longitude/latitude coordinates was sent to CHR. Using the information received from Division of State Risk and Insurance, CHR geo-coded each possible address. Using the same methods as before, each census block was given a score 0-3 (0=N/A, 1=low, 3=high) indicating the level of exposure for government facilities. As the value increases, the numbers of facilities in each census block increases, as does the risk to hazard events.

**Hazmat
Rank**

- 0
- 1 (Low)
- 2 (Moderate)
- 3 (High)

Kentucky Hazardous Materials Rank by Census Block



0 25 50 100 150 200 Miles



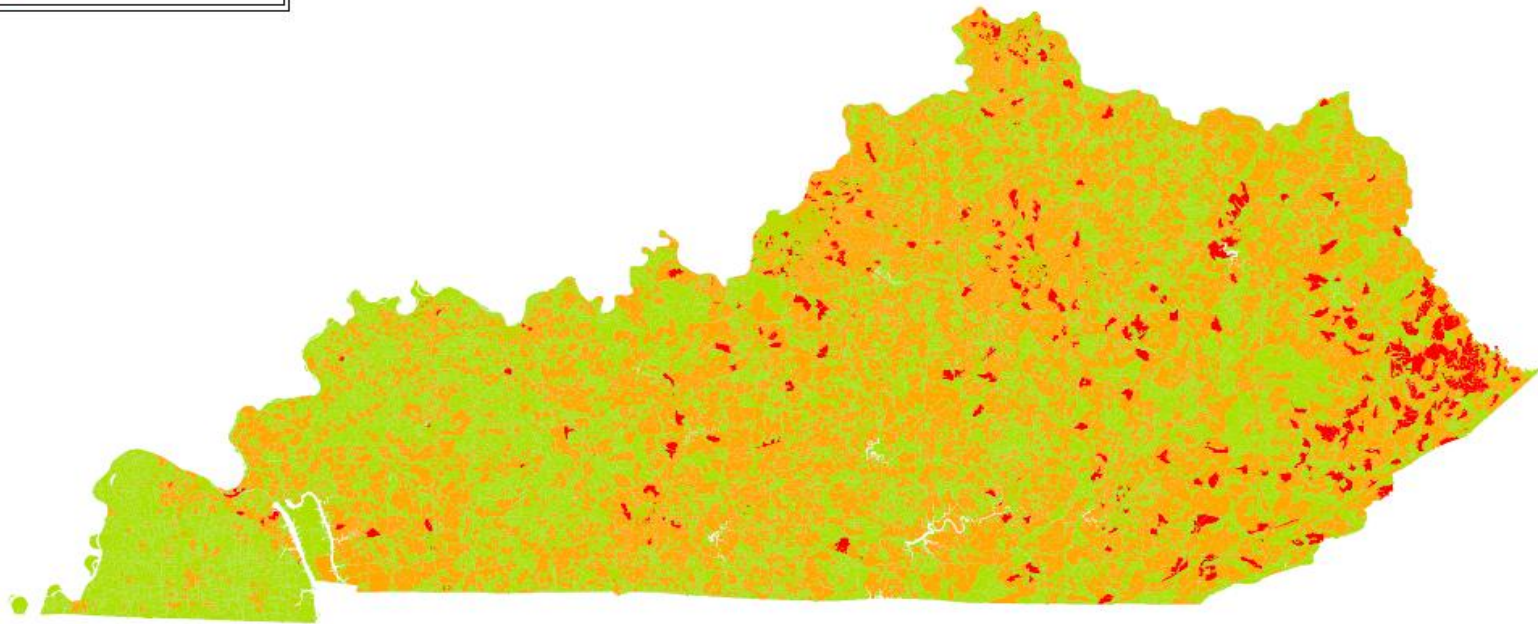
HAZMAT Explanation

Created the same way as the government facilities layer, the HAZMAT layer was derived from address and latitude-longitude data provided to CHR by KyEM. The locations of these facilities were geo-coded and tallied for each census block. Using the natural breaks classification, scores were assigned to each block 0-3 (0=N/A, 1=low, 3=high). Concentrations of HAZMAT storage facilities are indicated by higher values. 0 or N/A indicates no recorded presence of hazardous materials where records of 3 show high concentrations of HAZMAT and should be considered highly vulnerable to hazard events. **While HAZMAT is used in the exposure score it should also be viewed as a hazard as well. This map depicts areas of high vulnerability to a HAZMAT event.**

**Complete Exposure
Rank**

- 0
- 1 (Low)
- 2 (Moderate)
- 3 (High)

Kentucky Exposure Rank by Census Block



0 25 50 100 150 200 Miles



Complete Exposure Explanation

This map shows the total exposure rank for the Kentucky. Each census block in the state reflects a composite score from all seven previous layers and ranks them 0-3 (0=N/A, 1=low, 3=high) using the natural breaks method.

Exposure for Kentucky is calculated using the sums of the following layers: population, property value, utilities, essential facilities, government owned facilities, hazardous materials, and transportation.

This data displays a composite Exposure Score for the entire state of Kentucky at the census block level. This data is very important to understand regardless of the hazard being assessed. Each one of layers can also be used individually to display different layers of geographic information.

Appendix 18: Annualized Loss Rank State-Wide

Hazard Type	Start Range	End Range	Range	Frequency	Total Losses	Probability	Avg. Consequences	Avg. Annual Risk (ALR)
Drought	1950	2009	59	2	\$283,878,207.00	0.03	\$141,939,103.50	\$4,811,495.03
**Dam Failure	1973	2010	37	11	\$0.00	0.30	\$0.00	\$0.00
Earthquake	0	0	0	0	\$0.00	0.00	\$0.00	\$0.00
Extreme Heat	1983	2009	26	9	\$1,083,330.00	0.35	\$120,370.00	\$41,666.54
Flooding	1960	2009	49	264	\$1,952,649,993.00	5.39	\$7,396,401.49	\$39,849,999.86
Hail	1960	2009	49	190	\$881,973,476.81	3.88	\$4,641,965.67	\$17,999,458.71
**Karst	0	0	0	0	\$0.00	0.00	\$0.00	\$0.00
Landslide	2002	2009	7	1113	\$44,458,799.00	159.00	\$39,945.01	\$6,351,257.00
**Mine Subsidence	0	0	0	0	\$0.00	0.00	\$0.00	\$0.00
Severe Storm	1960	2009	49	71	\$290,877,244.39	1.45	\$4,096,862.60	\$5,936,270.29
Severe Winter Storm	1960	2009	49	47	\$227,744,117.00	0.96	\$4,845,619.51	\$4,647,839.12
Tornado	1950	2009	59	239	\$764,591,124.00	4.05	\$3,199,126.04	\$12,959,171.59
**Wildfire	0	0	0	0	\$0.00	0.00	\$0.00	\$0.00

** No frequency of events or specific damages were established

Appendix 19: Dam Failure Jurisdictional Loss Estimates

NAME	LOSS ESTIMATE	DAM/LEVEE CENSUS BLOCKS
ADAIR	\$22,032,000.00	35
ALLEN	\$41,388,600.00	23
ANDERSON	\$67,897,700.00	52
BALLARD	\$29,547,400.00	48
BARREN	\$89,017,800.00	46
BATH	\$72,700,500.00	94
BELL	\$99,557,100.00	136
BOONE	\$1,091,240,000.00	217
BOURBON	\$72,756,700.00	60
BOYD	\$76,476,700.00	59
BOYLE	\$32,481,900.00	27
BRACKEN	\$46,049,600.00	24
BREATHITT	\$54,089,300.00	95
BRECKINRIDGE	\$154,054,000.00	144
BULLITT	\$404,034,000.00	178
BUTLER	\$50,515,600.00	99
CALDWELL	\$37,277,000.00	93
CALLOWAY	\$33,190,400.00	41
CAMPBELL	\$449,803,000.00	116
CARLISLE	\$38,847,500.00	143
CARROLL	\$22,360,200.00	51
CARTER	\$107,905,000.00	129
CASEY	\$29,270,400.00	48
CHRISTIAN	\$209,057,000.00	215
CLARK	\$95,975,100.00	49
CLAY	\$40,399,000.00	31
CLINTON	\$11,122,600.00	12
CRITTENDEN	\$14,518,900.00	55
CUMBERLAND	\$0.00	0
DAVIESS	\$412,909,000.00	179
EDMONSON	\$66,727,700.00	49
ELLIOTT	\$15,973,000.00	6
ESTILL	\$122,506,000.00	131
FAYETTE	\$1,456,030,000.00	240
FLEMING	\$40,428,100.00	68
FLOYD	\$279,055,000.00	119

NAME	LOSS ESTIMATE	DAM/LEVEE CENSUS BLOCKS
FRANKLIN	\$334,898,000.00	160
FULTON	\$6,111,100.00	32
GALLATIN	\$34,329,600.00	36
GARRARD	\$81,131,600.00	60
GRANT	\$252,957,000.00	118
GRAVES	\$151,077,000.00	156
GRAYSON	\$71,455,100.00	109
GREEN	\$6,169,600.00	29
GREENUP	\$108,480,000.00	88
HANCOCK	\$60,862,300.00	122
HARDIN	\$243,230,000.00	115
HARLAN	\$130,535,000.00	221
HARRISON	\$74,834,500.00	75
HART	\$6,692,400.00	32
HENDERSON	\$298,719,000.00	128
HENRY	\$129,636,000.00	113
HICKMAN	\$17,230,900.00	53
HOPKINS	\$258,431,000.00	285
JACKSON	\$76,314,000.00	68
JEFFERSON	\$2,193,360,000.00	350
JESSAMINE	\$449,948,000.00	80
JOHNSON	\$45,988,900.00	42
KENTON	\$1,021,050,000.00	155
KNOTT	\$119,612,000.00	96
KNOX	\$108,062,000.00	90
LARUE	\$43,314,600.00	38
LAUREL	\$155,848,000.00	110
LAWRENCE	\$91,220,100.00	149
LEE	\$53,249,100.00	130
LESLIE	\$60,217,300.00	144
LETCHER	\$186,843,000.00	157
LEWIS	\$19,337,800.00	47
LINCOLN	\$123,072,000.00	101
LIVINGSTON	\$65,560,500.00	53
LOGAN	\$114,585,000.00	160
LYON	\$4,407,400.00	28
MADISON	\$467,106,000.00	199
MAGOFFIN	\$67,650,300.00	42
MARION	\$83,541,000.00	127

NAME	LOSS ESTIMATE	DAM/LEVEE CENSUS BLOCKS
MARSHALL	\$124,104,000.00	75
MARTIN	\$127,112,000.00	145
MASON	\$106,019,000.00	125
MCCRACKEN	\$43,264,100.00	41
MCCREARY	\$128,759,000.00	106
MCLEAN	\$12,950,600.00	32
MEADE	\$86,149,300.00	38
MENIFEE	\$37,799,000.00	49
MERCER	\$91,889,700.00	59
METCALFE	\$12,267,100.00	15
MONROE	\$13,580,300.00	19
MONTGOMERY	\$125,628,000.00	83
MORGAN	\$29,312,500.00	31
MUHLENBERG	\$161,814,000.00	284
NELSON	\$405,824,000.00	239
NICHOLAS	\$11,657,000.00	19
OHIO	\$92,218,000.00	146
OLDHAM	\$812,972,000.00	178
OWEN	\$39,633,800.00	51
OWSLEY	\$11,643,500.00	17
PENDLETON	\$62,132,400.00	47
PERRY	\$181,454,000.00	223
PIKE	\$763,515,000.00	427
POWELL	\$86,805,300.00	87
PULASKI	\$96,782,000.00	84
ROBERTSON	\$19,114,200.00	17
ROCKCASTLE	\$53,369,100.00	34
ROWAN	\$46,925,600.00	27
RUSSELL	\$33,781,600.00	47
SCOTT	\$381,023,000.00	185
SHELBY	\$523,324,000.00	221
SIMPSON	\$21,704,500.00	23
SPENCER	\$314,650,000.00	120
TAYLOR	\$69,145,100.00	63
TODD	\$42,188,600.00	95
TRIGG	\$19,832,300.00	23
TRIMBLE	\$57,968,300.00	46
UNION	\$44,643,400.00	122
WARREN	\$223,593,000.00	56

NAME	LOSS ESTIMATE	DAM/LEVEE CENSUS BLOCKS
WASHINGTON	\$119,685,000.00	132
WAYNE	\$0.00	0
WEBSTER	\$19,537,800.00	59
WHITLEY	\$60,320,700.00	82
WOLFE	\$13,823,500.00	41
WOODFORD	\$180,348,000.00	122

Appendix 20: Dam Failure State Facility Vulnerability and Loss Estimation

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
ADAIR	\$0.00	0
ALLEN	\$0.00	0
ANDERSON	\$0.00	0
BALLARD	\$0.00	0
BARREN	\$1,739,240.00	3
BATH	\$0.00	0
BELL	\$10,500.00	1
BOONE	\$1,972,910.00	2
BOURBON	\$0.00	0
BOYD	\$22,600.00	2
BOYLE	\$0.00	0
BRACKEN	\$0.00	0
BREATHITT	\$0.00	0
BRECKINRIDGE	\$0.00	0
BULLITT	\$0.00	0
BUTLER	\$0.00	0
CALDWELL	\$0.00	0
CALLOWAY	\$0.00	0
CAMPBELL	\$0.00	0
CARLISLE	\$0.00	0
CARROLL	\$0.00	0
CARTER	\$0.00	0
CASEY	\$0.00	0
CHRISTIAN	\$108,500.00	3
CLARK	\$0.00	0
CLAY	\$0.00	0
CLINTON	\$0.00	0
CRITTENDEN	\$0.00	0
CUMBERLAND	\$0.00	0
DAVIESS	\$0.00	0
EDMONSON	\$0.00	0
ELLIOTT	\$0.00	0
ESTILL	\$0.00	0
FAYETTE	\$216,007.00	87
FLEMING	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
FLOYD	\$0.00	0
FRANKLIN	\$6,246,130.00	4
FULTON	\$0.00	0
GALLATIN	\$0.00	0
GARRARD	\$0.00	0
GRANT	\$0.00	0
GRAVES	\$0.00	0
GRAYSON	\$40,000.00	1
GREEN	\$0.00	0
GREENUP	\$0.00	0
HANCOCK	\$8,071.00	34
HARDIN	\$0.00	0
HARLAN	\$0.00	0
HARRISON	\$0.00	0
HART	\$0.00	0
HENDERSON	\$0.00	0
HENRY	\$0.00	0
HICKMAN	\$0.00	0
HOPKINS	\$2,339,860.00	3
JACKSON	\$0.00	0
JEFFERSON	\$7,429,210.00	4
JESSAMINE	\$0.00	0
JOHNSON	\$0.00	0
KENTON	\$0.00	0
KNOTT	\$0.00	0
KNOX	\$0.00	0
LARUE	\$0.00	0
LAUREL	\$284,360.00	33
LAWRENCE	\$0.00	0
LEE	\$0.00	0
LESLIE	\$0.00	0
LETCHER	\$0.00	0
LEWIS	\$0.00	0
LINCOLN	\$0.00	0
LIVINGSTON	\$0.00	0
LOGAN	\$0.00	0
LYON	\$0.00	0
MADISON	\$0.00	0
MAGOFFIN	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
MARION	\$0.00	0
MARSHALL	\$0.00	0
MARTIN	\$0.00	0
MASON	\$0.00	0
MCCRACKEN	\$0.00	0
MCCREARY	\$0.00	0
MCLEAN	\$0.00	0
MEADE	\$0.00	0
MENIFEE	\$0.00	0
MERCER	\$0.00	0
METCALFE	\$0.00	0
MONROE	\$0.00	0
MONTGOMERY	\$0.00	0
MORGAN	\$0.00	0
MUHLENBERG	\$203,013.00	2
NELSON	\$261,889.00	3
NICHOLAS	\$0.00	0
OHIO	\$4,000.00	2
OLDHAM	\$0.00	0
OWEN	\$0.00	0
OWSLEY	\$0.00	0
PENDLETON	\$0.00	0
PERRY	\$0.00	0
PIKE	\$567,500.00	6
POWELL	\$0.00	0
PULASKI	\$0.00	0
ROBERTSON	\$0.00	0
ROCKCASTLE	\$0.00	0
ROWAN	\$0.00	0
RUSSELL	\$0.00	0
SCOTT	\$0.00	0
SHELBY	\$0.00	0
SIMPSON	\$0.00	0
SPENCER	\$0.00	0
TAYLOR	\$0.00	0
TODD	\$0.00	0
TRIGG	\$0.00	0
TRIMBLE	\$0.00	0
UNION	\$2,500.00	1

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
WARREN	\$0.00	0
WASHINGTON	\$0.00	0
WAYNE	\$0.00	0
WEBSTER	\$0.00	0
WHITLEY	\$0.00	0
WOLFE	\$0.00	0
WOODFORD	\$31,409.00	3

Appendix 21: Drought Jurisdictional Loss Estimates

NAME	LOSS ESTIMATE	LEVEL (3)CENSUS BLOCKS
ADAIR	\$0.00	0
ALLEN	\$0.00	0
ANDERSON	\$288,897,000.00	68
BALLARD	\$0.00	0
BARREN	\$25,870,500.00	2
BATH	\$126,355,000.00	60
BELL	\$245,703,000.00	119
BOONE	\$3,513,220,000.00	451
BOURBON	\$233,462,000.00	122
BOYD	\$523,907,000.00	140
BOYLE	\$478,674,000.00	154
BRACKEN	\$96,482,700.00	49
BREATHITT	\$112,088,000.00	79
BRECKINRIDGE	\$0.00	0
BULLITT	\$187,321,000.00	8
BUTLER	\$8,274,800.00	1
CALDWELL	\$0.00	0
CALLOWAY	\$0.00	0
CAMPBELL	\$2,544,670,000.00	344
CARLISLE	\$0.00	0
CARROLL	\$93,487,100.00	59
CARTER	\$271,157,000.00	128
CASEY	\$0.00	0
CHRISTIAN	\$0.00	0
CLARK	\$700,980,000.00	193
CLAY	\$203,202,000.00	113
CLINTON	\$0.00	0
CRITTENDEN	\$0.00	0
CUMBERLAND	\$12,293,100.00	3
DAVISS	\$0.00	0
EDMONSON	\$14,796,800.00	2
ELLIOTT	\$66,808,700.00	55
ESTILL	\$149,163,000.00	57

NAME	LOSS ESTIMATE	LEVEL (3)CENSUS BLOCKS
FAYETTE	\$9,840,260,000.00	1121
FLEMING	\$119,013,000.00	71
FLOYD	\$422,514,000.00	199
FRANKLIN	\$1,156,100,000.00	288
FULTON	\$0.00	0
GALLATIN	\$75,404,300.00	32
GARRARD	\$193,569,000.00	58
GRANT	\$446,376,000.00	120
GRAVES	\$0.00	0
GRAYSON	\$35,320,100.00	3
GREEN	\$0.00	0
GREENUP	\$362,112,000.00	139
HANCOCK	\$0.00	0
HARDIN	\$143,341,000.00	11
HARLAN	\$183,852,000.00	175
HARRISON	\$252,903,000.00	120
HART	\$0.00	0
HENDERSON	\$0.00	0
HENRY	\$246,003,000.00	120
HICKMAN	\$0.00	0
HOPKINS	\$0.00	0
JACKSON	\$120,531,000.00	79
JEFFERSON	\$1,351,980,000.00	45
JESSAMINE	\$831,238,000.00	236
JOHNSON	\$253,106,000.00	94
KENTON	\$4,885,480,000.00	663
KNOTT	\$178,542,000.00	102
KNOX	\$304,126,000.00	129
LARUE	\$23,949,900.00	3
LAUREL	\$822,893,000.00	218
LAWRENCE	\$134,436,000.00	100
LEE	\$81,584,500.00	62
LESLIE	\$96,725,200.00	87
LETCHER	\$181,392,000.00	118
LEWIS	\$92,986,300.00	99
LINCOLN	\$258,963,000.00	107
LIVINGSTON	\$0.00	0
LOGAN	\$0.00	0

NAME	LOSS ESTIMATE	LEVEL (3)CENSUS BLOCKS
LYON	\$0.00	0
MADISON	\$1,605,360,000.00	345
MAGOFFIN	\$133,877,000.00	74
MARION	\$7,547,200.00	1
MARSHALL	\$0.00	0
MARTIN	\$154,480,000.00	83
MASON	\$201,855,000.00	88
MCCRACKEN	\$0.00	0
MCCREARY	\$144,083,000.00	82
MCLEAN	\$0.00	0
MEADE	\$47,577,600.00	4
MENIFEE	\$64,830,400.00	38
MERCER	\$313,941,000.00	115
METCALFE	\$0.00	0
MONROE	\$0.00	0
MONTGOMERY	\$338,312,000.00	86
MORGAN	\$112,398,000.00	78
MUHLENBERG	\$0.00	0
NELSON	\$72,568,400.00	8
NICHOLAS	\$50,504,700.00	60
OHIO	\$0.00	0
OLDHAM	\$1,905,470,000.00	358
OWEN	\$125,724,000.00	69
OWSLEY	\$24,186,500.00	40
PENDLETON	\$166,373,000.00	76
PERRY	\$207,205,000.00	125
PIKE	\$1,146,880,000.00	360
POWELL	\$71,564,700.00	52
PULASKI	\$668,901,000.00	255
ROBERTSON	\$22,902,700.00	20
ROCKCASTLE	\$166,794,000.00	108
ROWAN	\$326,724,000.00	115
RUSSELL	\$0.00	0
SCOTT	\$855,467,000.00	291
SHELBY	\$1,002,540,000.00	311
SIMPSON	\$0.00	0
SPENCER	\$325,696,000.00	111
TAYLOR	\$0.00	0

NAME	LOSS ESTIMATE	LEVEL (3)CENSUS BLOCKS
TODD	\$0.00	0
TRIGG	\$0.00	0
TRIMBLE	\$130,012,000.00	62
UNION	\$0.00	0
WARREN	\$353,158,000.00	15
WASHINGTON	\$123,271,000.00	82
WAYNE	\$187,374,000.00	96
WEBSTER	\$0.00	0
WHITLEY	\$395,284,000.00	155
WOLFE	\$35,714,500.00	32
WOODFORD	\$710,139,000.00	200

Appendix 22: Drought State Facility Vulnerability and Loss Estimation

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
ADAIR	\$0.00	0
ALLEN	\$0.00	0
ANDERSON	\$1,942,290.00	1
BALLARD	\$0.00	0
BARREN	\$2,038,710.00	4
BATH	\$509,460.00	8
BELL	\$22,200.00	2
BOONE	\$9,856,990.00	19
BOURBON	\$0.00	0
BOYD	\$34,948,800.00	23
BOYLE	\$73,914,800.00	48
BRACKEN	\$265,995.00	4
BREATHITT	\$15,907,800.00	9
BRECKINRIDGE	\$0.00	0
BULLITT	\$3,632,830.00	20
BUTLER	\$0.00	0
CALDWELL	\$0.00	0
CALLOWAY	\$0.00	0
CAMPBELL	\$33,973,700.00	22
CARLISLE	\$0.00	0
CARROLL	\$21,400.00	1
CARTER	\$103,882,000.00	19
CASEY	\$0.00	0
CHRISTIAN	\$0.00	0
CLARK	\$15,701,700.00	42
CLAY	\$4,200.00	1
CLINTON	\$0.00	0
CRITTENDEN	\$0.00	0
CUMBERLAND	\$794,514.00	8
DAVISS	\$0.00	0
EDMONSON	\$0.00	0
ELLIOTT	\$0.00	0
ESTILL	\$13,044,700.00	36
FAYETTE	\$1,400,100,000.00	442
FLEMING	\$0.00	0
FLOYD	\$89,208,200.00	50

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
FRANKLIN	\$369,480,000.00	248
FULTON	\$0.00	0
GALLATIN	\$56,312.00	3
GARRARD	\$4,700.00	1
GRANT	\$1,372,340.00	15
GRAVES	\$0.00	0
GRAYSON	\$37,400,600.00	26
GREEN	\$0.00	0
GREENUP	\$1,257,400.00	6
HANCOCK	\$0.00	0
HARDIN	\$29,721,500.00	23
HARLAN	\$189,292,000.00	26
HARRISON	\$0.00	0
HART	\$0.00	0
HENDERSON	\$0.00	0
HENRY	\$63,271.00	4
HICKMAN	\$0.00	0
HOPKINS	\$0.00	0
JACKSON	\$0.00	0
JEFFERSON	\$13,979,100.00	43
JESSAMINE	\$61,446,000.00	17
JOHNSON	\$20,958,000.00	17
KENTON	\$243,517,000.00	56
KNOTT	\$1,398,900.00	9
KNOX	\$2,507,160.00	3
LARUE	\$123,497.00	4
LAUREL	\$3,775,660.00	42
LAWRENCE	\$16,839,800.00	79
LEE	\$555,130.00	5
LESLIE	\$2,786,230.00	15
LETCHER	\$12,691.00	1
LEWIS	\$0.00	0
LINCOLN	\$2,517,500.00	13
LIVINGSTON	\$0.00	0
LOGAN	\$0.00	0
LYON	\$0.00	0
MADISON	\$565,219,000.00	87
MAGOFFIN	\$0.00	0
MARION	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
MARSHALL	\$0.00	0
MARTIN	\$0.00	0
MASON	\$38,914,000.00	12
MCCRACKEN	\$0.00	0
MCCREARY	\$711,699.00	2
MCLEAN	\$0.00	0
MEADE	\$0.00	0
MENIFEE	\$0.00	0
MERCER	\$2,525,340.00	11
METCALFE	\$0.00	0
MONROE	\$0.00	0
MONTGOMERY	\$6,130,600.00	13
MORGAN	\$454,000.00	2
MUHLENBERG	\$0.00	0
NELSON	\$301,789.00	4
NICHOLAS	\$4,272,050.00	7
OHIO	\$0.00	0
OLDHAM	\$303,049,000.00	187
OWEN	\$15,816,100.00	55
OWSLEY	\$0.00	0
PENDLETON	\$34,700.00	2
PERRY	\$147,057.00	6
PIKE	\$34,802,800.00	35
POWELL	\$0.00	0
PULASKI	\$542,002,000.00	170
ROBERTSON	\$0.00	0
ROCKCASTLE	\$0.00	0
ROWAN	\$53,703,300.00	75
RUSSELL	\$0.00	0
SCOTT	\$20,117,600.00	10
SHELBY	\$1,402,850.00	8
SIMPSON	\$0.00	0
SPENCER	\$1,170,040.00	2
TAYLOR	\$0.00	0
TODD	\$0.00	0
TRIGG	\$0.00	0
TRIMBLE	\$3,583,790.00	8
UNION	\$0.00	0
WARREN	\$25,421,500.00	17

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
WASHINGTON	\$2,610,660.00	16
WAYNE	\$182,123,000.00	21
WEBSTER	\$0.00	0
WHITLEY	\$8,511,330.00	7
WOLFE	\$0.00	0
WOODFORD	\$365,517.00	8

Appendix 23: Extreme Heat Jurisdictional Loss Estimates

NAME	AVERAGE ANNUAL RISK (ALR)
Adair	\$20,936.60
Allen	\$20,858.50
Anderson	\$60,658.80
Ballard	\$48,867.50
Barren	\$21,207.30
Bath	\$29,724.80
Bell	\$28,249.20
Boone	\$39,493.30
Bourbon	\$87,481.70
Boyd	\$68,658.10
Boyle	\$60,658.80
Bracken	\$39,683.80
Breathitt	\$29,049.30
Breckinridge	\$33,416.00
Bullitt	\$32,530.70
Butler	\$22,049.00
Caldwell	\$48,867.50
Calloway	\$48,123.30
Campbell	\$39,493.30
Carlisle	\$48,123.30
Carroll	\$38,919.60
Carter	\$68,909.00
Casey	\$20,121.00
Christian	\$21,004.40
Clark	\$60,580.70
Clay	\$28,360.40
Clinton	\$20,121.00
Crittenden	\$33,029.20
Cumberland	\$41,269.60
Daviess	\$33,062.30
Edmonson	\$21,129.20
Elliott	\$29,043.00
Estill	\$28,706.40
Fayette	\$61,622.30
Fleming	\$56,731.90
Floyd	\$28,351.50

NAME	AVERAGE ANNUAL RISK (ALR)
Franklin	\$71,749.60
Fulton	\$48,123.30
Gallatin	\$38,919.60
Garrard	\$60,658.80
Grant	\$39,092.10
Graves	\$48,123.30
Grayson	\$49,481.00
Green	\$20,936.60
Greenup	\$68,765.60
Hancock	\$32,452.50
Hardin	\$57,297.30
Harlan	\$28,633.60
Harrison	\$87,509.60
Hart	\$21,207.30
Henderson	\$35,229.00
Henry	\$31,818.50
Hickman	\$48,123.30
Hopkins	\$48,900.50
Jackson	\$28,877.70
Jefferson	\$33,271.20
Jessamine	\$60,658.80
Johnson	\$28,685.90
Kenton	\$39,493.30
Knott	\$28,340.00
Knox	\$28,318.80
Larue	\$21,771.10
Laurel	\$28,612.70
Lawrence	\$41,045.60
Lee	\$28,587.80
Leslie	\$28,340.00
Letcher	\$28,702.90
Lewis	\$55,435.20
Lincoln	\$20,121.00
Livingston	\$33,029.20
Logan	\$21,129.20
Lyon	\$48,051.60
Madison	\$60,658.80
Magoffin	\$28,821.50
Marion	\$61,474.40

NAME	AVERAGE ANNUAL RISK (ALR)
Marshall	\$48,867.50
Martin	\$28,549.40
Mason	\$55,446.00
McCracken	\$48,864.00
McCreary	\$28,687.50
McLean	\$48,896.90
Meade	\$32,527.00
Menifee	\$28,575.00
Mercer	\$60,655.20
Metcalf	\$20,933.30
Monroe	\$41,266.00
Montgomery	\$29,109.00
Morgan	\$28,575.00
Muhlenberg	\$48,864.00
Nelson	\$57,294.00
Nicholas	\$88,097.70
Ohio	\$48,287.10
Oldham	\$32,380.00
Owen	\$39,166.90
Owsley	\$28,695.20
Pendleton	\$39,088.50
Perry	\$28,406.00
Pike	\$28,621.20
Powell	\$28,466.90
Pulaski	\$28,730.00
Robertson	\$39,454.00
Rockcastle	\$28,448.70
Rowan	\$56,832.50
Russell	\$20,933.30
Scott	\$88,547.70
Shelby	\$32,555.00
Simpson	\$20,855.00
Spencer	\$32,527.00
Taylor	\$20,933.30
Todd	\$21,000.90
Trigg	\$48,120.00
Trimble	\$32,067.10
Union	\$33,058.70
Warren	\$21,125.60

NAME	AVERAGE ANNUAL RISK (ALR)
Washington	\$61,470.80
Wayne	\$28,448.70
Webster	\$33,058.70
Whitley	\$28,370.70
Wolfe	\$29,616.70
Woodford	\$60,655.20

Appendix 24: Extreme Heat State Facility Vulnerability and Loss Estimation

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
ADAIR	\$0.00	0
ALLEN	\$0.00	0
ANDERSON	\$0.00	0
BALLARD	\$638,854.00	12
BARREN	\$0.00	0
BATH	\$0.00	0
BELL	\$0.00	0
BOONE	\$1,724,710.00	11
BOURBON	\$0.00	0
BOYD	\$6,484,470.00	1
BOYLE	\$0.00	0
BRACKEN	\$0.00	0
BREATHITT	\$0.00	0
BRECKINRIDGE	\$0.00	0
BULLITT	\$0.00	0
BUTLER	\$0.00	0
CALDWELL	\$71,957,200.00	11
CALLOWAY	\$45,201,000.00	50
CAMPBELL	\$830,236.00	4
CARLISLE	\$0.00	0
CARROLL	\$0.00	0
CARTER	\$0.00	0
CASEY	\$0.00	0
CHRISTIAN	\$154,433,000.00	39
CLARK	\$0.00	0
CLAY	\$0.00	0
CLINTON	\$0.00	0
CRITTENDEN	\$3,765,800.00	10
CUMBERLAND	\$0.00	0
DAVISS	\$76,826,900.00	76
EDMONSON	\$0.00	0
ELLIOTT	\$0.00	0
ESTILL	\$0.00	0
FAYETTE	\$0.00	0
FLEMING	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
FLOYD	\$0.00	0
FRANKLIN	\$0.00	0
FULTON	\$8,445,360.00	1
GALLATIN	\$0.00	0
GARRARD	\$0.00	0
GRANT	\$0.00	0
GRAVES	\$51,867,700.00	76
GRAYSON	\$0.00	0
GREEN	\$0.00	0
GREENUP	\$0.00	0
HANCOCK	\$0.00	0
HARDIN	\$0.00	0
HARLAN	\$0.00	0
HARRISON	\$0.00	0
HART	\$0.00	0
HENDERSON	\$1,500.00	1
HENRY	\$0.00	0
HICKMAN	\$900,518.00	3
HOPKINS	\$0.00	0
JACKSON	\$0.00	0
JEFFERSON	\$0.00	0
JESSAMINE	\$0.00	0
JOHNSON	\$0.00	0
KENTON	\$161,854,000.00	20
KNOTT	\$0.00	0
KNOX	\$0.00	0
LARUE	\$0.00	0
LAUREL	\$1,347,040.00	33
LAWRENCE	\$0.00	0
LEE	\$0.00	0
LESLIE	\$0.00	0
LETCHER	\$0.00	0
LEWIS	\$0.00	0
LINCOLN	\$0.00	0
LIVINGSTON	\$47,861,200.00	2
LOGAN	\$0.00	0
LYON	\$672,602.00	4
MADISON	\$0.00	0
MAGOFFIN	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
MARION	\$0.00	0
MARSHALL	\$32,481,100.00	106
MARTIN	\$0.00	0
MASON	\$0.00	0
MCCRACKEN	\$17,690,000.00	35
MCCREARY	\$0.00	0
MCLEAN	\$0.00	0
MEADE	\$0.00	0
MENIFEE	\$0.00	0
MERCER	\$0.00	0
METCALFE	\$0.00	0
MONROE	\$0.00	0
MONTGOMERY	\$0.00	0
MORGAN	\$0.00	0
MUHLENBERG	\$0.00	0
NELSON	\$0.00	0
NICHOLAS	\$0.00	0
OHIO	\$0.00	0
OLDHAM	\$0.00	0
OWEN	\$0.00	0
OWSLEY	\$0.00	0
PENDLETON	\$0.00	0
PERRY	\$0.00	0
PIKE	\$0.00	0
POWELL	\$0.00	0
PULASKI	\$0.00	0
ROBERTSON	\$0.00	0
ROCKCASTLE	\$0.00	0
ROWAN	\$0.00	0
RUSSELL	\$0.00	0
SCOTT	\$0.00	0
SHELBY	\$0.00	0
SIMPSON	\$0.00	0
SPENCER	\$0.00	0
TAYLOR	\$0.00	0
TODD	\$0.00	0
TRIGG	\$9,833,830.00	2
TRIMBLE	\$0.00	0
UNION	\$1,357,450.00	1

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
WARREN	\$0.00	0
WASHINGTON	\$0.00	0
WAYNE	\$0.00	0
WEBSTER	\$0.00	0
WHITLEY	\$0.00	0
WOLFE	\$0.00	0
WOODFORD	\$0.00	0

Appendix 24: Flood Jurisdictional Loss Estimates

NAME	LOSS ESTIMATE	FLOOD LAYER BLOCKS
ADAIR	\$371,022,000.00	727
ALLEN	\$451,587,000.00	545
ANDERSON	\$673,297,000.00	403
BALLARD	\$118,794,000.00	426
BARREN	\$1,031,870,000.00	898
BATH	\$306,017,000.00	617
BELL	\$580,315,000.00	1,034
BOONE	\$3,094,990,000.00	721
BOURBON	\$603,511,000.00	672
BOYD	\$734,073,000.00	747
BOYLE	\$689,345,000.00	638
BRACKEN	\$203,653,000.00	280
BREATHITT	\$375,904,000.00	723
BRECKINRIDGE	\$369,811,000.00	483
BULLITT	\$1,933,860,000.00	860
BUTLER	\$278,796,000.00	775
CALDWELL	\$268,601,000.00	669
CALLOWAY	\$617,067,000.00	866
CAMPBELL	\$2,651,660,000.00	861
CARLISLE	\$91,229,100.00	409
CARROLL	\$273,746,000.00	409
CARTER	\$616,405,000.00	1,064
CASEY	\$322,626,000.00	777
CHRISTIAN	\$1,317,800,000.00	1,163
CLARK	\$1,171,080,000.00	714
CLAY	\$417,465,000.00	830
CLINTON	\$174,136,000.00	327
CRITTENDEN	\$156,606,000.00	653
CUMBERLAND	\$150,243,000.00	561
DAVIESS	\$2,170,140,000.00	1,432
EDMONSON	\$311,070,000.00	386
ELLIOTT	\$213,522,000.00	404
ESTILL	\$371,846,000.00	529
FAYETTE	\$9,686,820,000.00	1,557
FLEMING	\$362,118,000.00	790
FLOYD	\$1,159,170,000.00	1,697

NAME	LOSS ESTIMATE	FLOOD LAYER BLOCKS
FRANKLIN	\$1,346,210,000.00	708
FULTON	\$94,237,200.00	489
GALLATIN	\$170,164,000.00	272
GARRARD	\$399,545,000.00	508
GRANT	\$715,023,000.00	525
GRAVES	\$773,664,000.00	1,125
GRAYSON	\$435,924,000.00	572
GREEN	\$274,707,000.00	535
GREENUP	\$739,203,000.00	1,151
HANCOCK	\$242,438,000.00	545
HARDIN	\$2,080,180,000.00	1,109
HARLAN	\$567,728,000.00	1,734
HARRISON	\$561,159,000.00	659
HART	\$400,063,000.00	659
HENDERSON	\$1,080,560,000.00	1,048
HENRY	\$478,027,000.00	496
HICKMAN	\$94,004,400.00	543
HOPKINS	\$823,645,000.00	1,466
JACKSON	\$284,230,000.00	569
JEFFERSON	\$19,581,000,000.00	4,478
JESSAMINE	\$1,491,600,000.00	531
JOHNSON	\$622,247,000.00	982
KENTON	\$3,240,780,000.00	802
KNOTT	\$404,988,000.00	546
KNOX	\$672,862,000.00	987
LARUE	\$366,192,000.00	518
LAUREL	\$1,290,780,000.00	920
LAWRENCE	\$370,872,000.00	977
LEE	\$153,702,000.00	454
LESLIE	\$229,559,000.00	692
LETCHER	\$500,553,000.00	952
LEWIS	\$276,647,000.00	1,211
LINCOLN	\$550,442,000.00	702
LIVINGSTON	\$209,725,000.00	414
LOGAN	\$591,793,000.00	1,038
LYON	\$198,399,000.00	450
MADISON	\$2,250,770,000.00	1,130
MAGOFFIN	\$342,205,000.00	467
MARION	\$446,958,000.00	857

NAME	LOSS ESTIMATE	FLOOD LAYER BLOCKS
MARSHALL	\$939,990,000.00	1205
MARTIN	\$313,562,000.00	566
MASON	\$227,550,000.00	418
MCCRACKEN	\$1,286,920,000.00	983
MCCREARY	\$279,695,000.00	489
MCLEAN	\$216,514,000.00	567
MEADE	\$404,025,000.00	276
MENIFEE	\$174,178,000.00	356
MERCER	\$597,921,000.00	536
METCALFE	\$237,337,000.00	539
MONROE	\$232,429,000.00	609
MONTGOMERY	\$635,677,000.00	621
MORGAN	\$339,330,000.00	666
MUHLENBERG	\$543,190,000.00	1,360
NELSON	\$1,121,410,000.00	953
NICHOLAS	\$159,529,000.00	458
OHIO	\$455,634,000.00	1,039
OLDHAM	\$2,183,910,000.00	548
OWEN	\$294,400,000.00	486
OWSLEY	\$94,474,200.00	366
PENDLETON	\$432,983,000.00	470
PERRY	\$588,205,000.00	995
PIKE	\$1,873,990,000.00	1,876
POWELL	\$374,355,000.00	575
PULASKI	\$1,122,410,000.00	1,283
ROBERTSON	\$67,880,000.00	152
ROCKCASTLE	\$385,456,000.00	841
ROWAN	\$660,448,000.00	740
RUSSELL	\$368,235,000.00	549
SCOTT	\$1,022,890,000.00	678
SHELBY	\$1,423,220,000.00	819
SIMPSON	\$433,958,000.00	468
SPENCER	\$585,328,000.00	406
TAYLOR	\$550,508,000.00	713
TODD	\$232,846,000.00	586
TRIGG	\$376,487,000.00	599
TRIMBLE	\$238,097,000.00	254
UNION	\$195,304,000.00	708
WARREN	\$2,546,340,000.00	1,067

NAME	LOSS ESTIMATE	FLOOD LAYER BLOCKS
WASHINGTON	\$315,097,000.00	529
WAYNE	\$321,819,000.00	627
WEBSTER	\$218,494,000.00	875
WHITLEY	\$628,888,000.00	932
WOLFE	\$152,178,000.00	373
WOODFORD	\$915,181,000.00	485

Appendix 25: Flood State Facility Vulnerability and Loss Estimation

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
ADAIR	\$12,000.00	1
ALLEN	\$0.00	0
ANDERSON	\$0.00	0
BALLARD	\$0.00	0
BARREN	\$1,130,240.00	4
BATH	\$0.00	0
BELL	\$22,200.00	2
BOONE	\$0.00	0
BOURBON	\$0.00	0
BOYD	\$0.00	0
BOYLE	\$0.00	0
BRACKEN	\$0.00	0
BREATHITT	\$0.00	0
BRECKINRIDGE	\$216,000.00	1
BULLITT	\$0.00	0
BUTLER	\$0.00	0
CALDWELL	\$0.00	0
CALLOWAY	\$2,099,000.00	6
CAMPBELL	\$0.00	0
CARLISLE	\$0.00	0
CARROLL	\$0.00	0
CARTER	\$0.00	0
CASEY	\$0.00	0
CHRISTIAN	\$1,200.00	1
CLARK	\$52,652,400.00	3
CLAY	\$0.00	0
CLINTON	\$0.00	0
CRITTENDEN	\$0.00	0
CUMBERLAND	\$0.00	0
DAVIESS	\$2,830,110.00	8
EDMONSON	\$0.00	0
ELLIOTT	\$0.00	0
ESTILL	\$0.00	0
FAYETTE	\$298,960.00	5
FLEMING	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
FLOYD	\$80,659,300.00	10
FRANKLIN	\$870,687.00	4
FULTON	\$0.00	0
GALLATIN	\$0.00	0
GARRARD	\$0.00	0
GRANT	\$0.00	0
GRAVES	\$0.00	0
GRAYSON	\$13,132.00	1
GREEN	\$0.00	0
GREENUP	\$493,000.00	2
HANCOCK	\$0.00	0
HARDIN	\$3,750.00	1
HARLAN	\$3,800.00	2
HARRISON	\$0.00	0
HART	\$803,591.00	2
HENDERSON	\$4,818,980.00	51
HENRY	\$0.00	0
HICKMAN	\$683,000.00	1
HOPKINS	\$0.00	0
JACKSON	\$0.00	0
JEFFERSON	\$1,259,380.00	7
JESSAMINE	\$15,773,600.00	1
JOHNSON	\$347,500.00	7
KENTON	\$5,868,010.00	7
KNOTT	\$1,172,720.00	2
KNOX	\$3,480.00	1
LARUE	\$429,774.00	3
LAUREL	\$0.00	0
LAWRENCE	\$16,839,800.00	79
LEE	\$0.00	0
LESLIE	\$0.00	0
LETCHER	\$1,255,020.00	2
LEWIS	\$0.00	0
LINCOLN	\$0.00	0
LIVINGSTON	\$0.00	0
LOGAN	\$396,000.00	1
LYON	\$0.00	0
MADISON	\$0.00	0
MAGOFFIN	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
MARION	\$0.00	0
MARSHALL	\$662,105.00	5
MARTIN	\$0.00	0
MASON	\$0.00	0
MCCRACKEN	\$0.00	0
MCCREARY	\$0.00	0
MCLEAN	\$419,509.00	7
MEADE	\$0.00	0
MENIFEE	\$0.00	0
MERCER	\$267,952.00	4
METCALFE	\$0.00	0
MONROE	\$350,346.00	3
MONTGOMERY	\$0.00	0
MORGAN	\$0.00	0
MUHLENBERG	\$439,683.00	2
NELSON	\$0.00	0
NICHOLAS	\$0.00	0
OHIO	\$0.00	0
OLDHAM	\$0.00	0
OWEN	\$0.00	0
OWSLEY	\$0.00	0
PENDLETON	\$0.00	0
PERRY	\$118,857.00	4
PIKE	\$17,000.00	1
POWELL	\$0.00	0
PULASKI	\$11,767,800.00	4
ROBERTSON	\$0.00	0
ROCKCASTLE	\$0.00	0
ROWAN	\$41,458,200.00	12
RUSSELL	\$0.00	0
SCOTT	\$0.00	0
SHELBY	\$0.00	0
SIMPSON	\$0.00	0
SPENCER	\$0.00	0
TAYLOR	\$854,000.00	7
TODD	\$0.00	0
TRIGG	\$0.00	0
TRIMBLE	\$723,799.00	4
UNION	\$2,073,860.00	3

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
WARREN	\$1,297,440.00	3
WASHINGTON	\$42,600.00	3
WAYNE	\$0.00	0
WEBSTER	\$13,669,500.00	7
WHITLEY	\$0.00	0
WOLFE	\$0.00	0
WOODFORD	\$0.00	0

Appendix 26: Hail Jurisdictional Loss Estimates

NAME	AVERAGE ANNUAL RISK (ALR)
ADAIR	\$35,572.20
ALLEN	\$5,527.27
ANDERSON	\$13,086.80
BALLARD	\$7,758.60
BARREN	\$14,308.60
BATH	\$4,719.78
BELL	\$3,805.70
BOONE	\$29,867.70
BOURBON	\$10,283.80
BOYD	\$13,013.90
BOYLE	\$9,207.19
BRACKEN	\$235,168.00
BREATHITT	\$4,521.08
BRECKINRIDGE	\$5,436.06
BULLITT	\$5,906.05
BUTLER	\$33,626.90
CALDWELL	\$9,581.21
CALLOWAY	\$16,804.40
CAMPBELL	\$6,651.22
CARLISLE	\$7,590.61
CARROLL	\$6,045.33
CARTER	\$6,958.29
CASEY	\$3,220.15
CHRISTIAN	\$8,857.20
CLARK	\$10,998.30
CLAY	\$2,716.58
CLINTON	\$9,684.77
CRITTENDEN	\$5,369.67
CUMBERLAND	\$5,777.84
DAVIESS	\$19,733.30
EDMONSON	\$3,475.33
ELLIOTT	\$10,769.20
ESTILL	\$3,067.60
FAYETTE	\$171,163.00
FLEMING	\$16,642.00
FLOYD	\$3,924.37

NAME	AVERAGE ANNUAL RISK (ALR)
FRANKLIN	\$8,726.43
FULTON	\$6,268.69
GALLATIN	\$5,440.47
GARRARD	\$6,585.84
GRANT	\$6,185.33
GRAVES	\$6,943.16
GRAYSON	\$5,727.09
GREEN	\$34,628.10
GREENUP	\$6,202.94
HANCOCK	\$5,022.79
HARDIN	\$5,276.25
HARLAN	\$5,350.38
HARRISON	\$17,604.80
HART	\$9,493.42
HENDERSON	\$16,580.40
HENRY	\$11,187.60
HICKMAN	\$5,337.69
HOPKINS	\$28,026.20
JACKSON	\$4,043.52
JEFFERSON	\$576,800.00
JESSAMINE	\$11,027.50
JOHNSON	\$2,815.84
KENTON	\$7,110.96
KNOTT	\$2,996.85
KNOX	\$9,485.82
LARUE	\$4,634.49
LAUREL	\$757,538.00
LAWRENCE	\$3,649.41
LEE	\$2,882.21
LESLIE	\$5,459.05
LETCHER	\$4,294.50
LEWIS	\$14,494.20
LINCOLN	\$3,910.91
LIVINGSTON	\$5,360.73
LOGAN	\$8,094.83
LYON	\$4,886.97
MADISON	\$9,628.81
MAGOFFIN	\$3,025.88
MARION	\$21,709.60

NAME	AVERAGE ANNUAL RISK (ALR)
MARSHALL	\$250,094.00
MARTIN	\$3,203.12
MASON	\$235,217.00
MCCRACKEN	\$493,048.00
MCCREARY	\$4,751.66
MCLEAN	\$17,857.70
MEADE	\$5,889.97
MENIFEE	\$3,295.38
MERCER	\$5,924.01
METCALFE	\$20,943.50
MONROE	\$8,911.09
MONTGOMERY	\$9,072.48
MORGAN	\$4,412.20
MUHLENBERG	\$58,707.00
NELSON	\$3,341.53
NICHOLAS	\$11,020.20
OHIO	\$36,325.20
OLDHAM	\$5,532.75
OWEN	\$7,585.03
OWSLEY	\$3,165.58
PENDLETON	\$225,869.00
PERRY	\$2,860.65
PIKE	\$10,160.50
POWELL	\$3,324.88
PULASKI	\$137,367.00
ROBERTSON	\$2,613.14
ROCKCASTLE	\$114,933.00
ROWAN	\$2,992.57
RUSSELL	\$5,117.50
SCOTT	\$10,369.60
SHELBY	\$11,797.90
SIMPSON	\$67,338.70
SPENCER	\$3,356.44
TAYLOR	\$11,655.70
TODD	\$8,659.84
TRIGG	\$8,304.07
TRIMBLE	\$7,626.77
UNION	\$21,383.40
WARREN	\$14,069,300.00

NAME	AVERAGE ANNUAL RISK (ALR)
WASHINGTON	\$9,357.37
WAYNE	\$4,861.06
WEBSTER	\$13,675.30
WHITLEY	\$8,558.10
WOLFE	\$3,736.41
WOODFORD	\$5,674.92

Appendix 27: Hail State Facility Vulnerability and Loss Estimation

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
ADAIR	\$0.00	0
ALLEN	\$0.00	0
ANDERSON	\$0.00	0
BALLARD	\$0.00	0
BARREN	\$0.00	0
BATH	\$0.00	0
BELL	\$0.00	0
BOONE	\$1,411,760.00	9
BOURBON	\$0.00	0
BOYD	\$0.00	0
BOYLE	\$0.00	0
BRACKEN	\$0.00	0
BREATHITT	\$0.00	0
BRECKINRIDGE	\$0.00	0
BULLITT	\$4,580,540.00	1
BUTLER	\$0.00	0
CALDWELL	\$0.00	0
CALLOWAY	\$2,070.00	1
CAMPBELL	\$250,000.00	1
CARLISLE	\$0.00	0
CARROLL	\$0.00	0
CARTER	\$0.00	0
CASEY	\$0.00	0
CHRISTIAN	\$52,800.00	1
CLARK	\$0.00	0
CLAY	\$0.00	0
CLINTON	\$0.00	0
CRITTENDEN	\$0.00	0
CUMBERLAND	\$0.00	0
DAVIESS	\$0.00	0
EDMONSON	\$0.00	0
ELLIOTT	\$0.00	0
ESTILL	\$0.00	0
FAYETTE	\$0.00	0
FLEMING	\$0.00	0
FLOYD	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
FRANKLIN	\$4,699,940.00	10
FULTON	\$0.00	0
GALLATIN	\$0.00	0
GARRARD	\$0.00	0
GRANT	\$0.00	0
GRAVES	\$632,000.00	1
GRAYSON	\$37,361,700.00	24
GREEN	\$0.00	0
GREENUP	\$0.00	0
HANCOCK	\$0.00	0
HARDIN	\$1,507,200.00	14
HARLAN	\$0.00	0
HARRISON	\$0.00	0
HART	\$7,587,550.00	3
HENDERSON	\$0.00	0
HENRY	\$0.00	0
HICKMAN	\$0.00	0
HOPKINS	\$0.00	0
JACKSON	\$0.00	0
JEFFERSON	\$13,979,100.00	43
JESSAMINE	\$0.00	0
JOHNSON	\$0.00	0
KENTON	\$0.00	0
KNOTT	\$1,210,720.00	3
KNOX	\$0.00	0
LARUE	\$123,497.00	4
LAUREL	\$1,347,040.00	33
LAWRENCE	\$0.00	0
LEE	\$0.00	0
LESLIE	\$0.00	0
LETCHER	\$0.00	0
LEWIS	\$0.00	0
LINCOLN	\$0.00	0
LIVINGSTON	\$0.00	0
LOGAN	\$0.00	0
LYON	\$0.00	0
MADISON	\$0.00	0
MAGOFFIN	\$0.00	0
MARION	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
MARSHALL	\$0.00	0
MARTIN	\$0.00	0
MASON	\$0.00	0
MCCRACKEN	\$783,000.00	1
MCCREARY	\$701,606.00	1
MCLEAN	\$0.00	0
MEADE	\$0.00	0
MENIFEE	\$0.00	0
MERCER	\$0.00	0
METCALFE	\$0.00	0
MONROE	\$0.00	0
MONTGOMERY	\$0.00	0
MORGAN	\$0.00	0
MUHLENBERG	\$0.00	0
NELSON	\$0.00	0
NICHOLAS	\$0.00	0
OHIO	\$0.00	0
OLDHAM	\$0.00	0
OWEN	\$0.00	0
OWSLEY	\$0.00	0
PENDLETON	\$0.00	0
PERRY	\$0.00	0
PIKE	\$834,063.00	5
POWELL	\$0.00	0
PULASKI	\$195,266,000.00	14
ROBERTSON	\$0.00	0
ROCKCASTLE	\$0.00	0
ROWAN	\$239,952.00	7
RUSSELL	\$0.00	0
SCOTT	\$0.00	0
SHELBY	\$0.00	0
SIMPSON	\$0.00	0
SPENCER	\$0.00	0
TAYLOR	\$0.00	0
TODD	\$0.00	0
TRIGG	\$0.00	0
TRIMBLE	\$0.00	0
UNION	\$0.00	0
WARREN	\$562,338,000.00	127

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
WASHINGTON	\$0.00	0
WAYNE	\$0.00	0
WEBSTER	\$0.00	0
WHITLEY	\$0.00	0
WOLFE	\$0.00	0
WOODFORD	\$0.00	0

Appendix 28: Karst Jurisdictional Loss Estimates

NAME	LOSS ESTIMATE	KARST LAYER BLOCKS
ADAIR	\$934,200.00	536
ALLEN	\$77,300.00	483
ANDERSON	\$2,508,800.00	291
BALLARD	\$0.00	0
BARREN	\$1,544,000.00	1,004
BATH	\$0.00	277
BELL	\$405,600.00	51
BOONE	\$1,125,000.00	435
BOURBON	\$7,181,500.00	831
BOYD	\$0.00	0
BOYLE	\$168,200.00	697
BRACKEN	\$412,300.00	219
BREATHITT	\$0.00	0
BRECKINRIDGE	\$464,800.00	777
BULLITT	\$36,712,000.00	90
BUTLER	\$492,600.00	254
CALDWELL	\$151,500.00	686
CALLOWAY	\$51,400.00	107
CAMPBELL	\$997,200.00	452
CARLISLE	\$0.00	0
CARROLL	\$0.00	107
CARTER	\$3,470,000.00	215
CASEY	\$1,171,600.00	356
CHRISTIAN	\$724,000.00	1,617
CLARK	\$1,192,800.00	703
CLAY	\$0.00	0
CLINTON	\$203,200.00	429
CRITTENDEN	\$144,800.00	680
CUMBERLAND	\$1,925,000.00	581
DAVISS	\$0.00	0
EDMONSON	\$613,200.00	289
ELLIOTT	\$1,671,600.00	20
ESTILL	\$4,962,000.00	55
FAYETTE	\$1,233,000.00	2,602
FLEMING	\$0.00	369
FLOYD	\$0.00	0

NAME	LOSS ESTIMATE	KARST LAYER BLOCKS
FRANKLIN	\$822,400.00	858
FULTON	\$0.00	0
GALLATIN	\$334,000.00	127
GARRARD	\$1,584,000.00	489
GRANT	\$508,900.00	429
GRAVES	\$0.00	0
GRAYSON	\$276,600.00	721
GREEN	\$4,106,400.00	595
GREENUP	\$1,334,000.00	1
HANCOCK	\$724,800.00	73
HARDIN	\$0.00	1,741
HARLAN	\$3,536,000.00	51
HARRISON	\$1,017,800.00	580
HART	\$1,721,600.00	770
HENDERSON	\$0.00	0
HENRY	\$265,200.00	353
HICKMAN	\$0.00	0
HOPKINS	\$332,100.00	1
JACKSON	\$2,898,000.00	226
JEFFERSON	\$754,400.00	118
JESSAMINE	\$412,500.00	724
JOHNSON	\$0.00	0
KENTON	\$0.00	831
KNOTT	\$0.00	0
KNOX	\$7,726,200.00	1
LARUE	\$0.00	541
LAUREL	\$1,803,200.00	29
LAWRENCE	\$0.00	0
LEE	\$0.00	51
LESLIE	\$0.00	0
LETCHER	\$3,536,000.00	50
LEWIS	\$451,500.00	84
LINCOLN	\$3,635,500.00	490
LIVINGSTON	\$0.00	336
LOGAN	\$246,300.00	1,405
LYON	\$0.00	605
MADISON	\$4,636,800.00	889
MAGOFFIN	\$0.00	0
MARION	\$0.00	495

NAME	LOSS ESTIMATE	KARST LAYER BLOCKS
MARSHALL	\$0.00	39
MARTIN	\$0.00	0
MASON	\$353,400.00	512
MCCRACKEN	\$0.00	0
MCCREARY	\$667,800.00	148
MCLEAN	\$0.00	0
MEADE	\$7,843,500.00	628
MENIFEE	\$884,800.00	14
MERCER	\$669,000.00	574
METCALFE	\$454,800.00	440
MONROE	\$44,700.00	594
MONTGOMERY	\$12,127,000.00	399
MORGAN	\$412,800.00	2
MUHLENBERG	\$0.00	109
NELSON	\$0.00	307
NICHOLAS	\$632,500.00	341
OHIO	\$3,062,400.00	121
OLDHAM	\$3,264,800.00	3
OWEN	\$2,237,400.00	335
OWSLEY	\$1,008,000.00	2
PENDLETON	\$118,800.00	172
PERRY	\$0.00	0
PIKE	\$237,500.00	9
POWELL	\$4,962,000.00	41
PULASKI	\$356,400.00	2,055
ROBERTSON	\$0.00	141
ROCKCASTLE	\$685,200.00	573
ROWAN	\$975,000.00	29
RUSSELL	\$356,400.00	592
SCOTT	\$230,400.00	846
SHELBY	\$709,200.00	764
SIMPSON	\$2,681,100.00	701
SPENCER	\$2,665,600.00	302
TAYLOR	\$1,869,900.00	766
TODD	\$72,500.00	785
TRIGG	\$0.00	692
TRIMBLE	\$1,166,200.00	92
UNION	\$350,000.00	1
WARREN	\$0.00	1,800

NAME	LOSS ESTIMATE	KARST LAYER BLOCKS
WASHINGTON	\$0.00	422
WAYNE	\$0.00	864
WEBSTER	\$0.00	0
WHITLEY	\$405,600.00	7
WOLFE	\$0.00	0
WOODFORD	\$0.00	634

Appendix 29: Karst State Facility Vulnerability and Loss Estimation

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
ADAIR	\$1,889,780.00	15
ALLEN	\$23,224,200.00	7
ANDERSON	\$0.00	0
BALLARD	\$0.00	0
BARREN	\$52,045,000.00	29
BATH	\$0.00	0
BELL	\$0.00	0
BOONE	\$2,152,700.00	2
BOURBON	\$0.00	0
BOYD	\$0.00	0
BOYLE	\$73,714,800.00	45
BRACKEN	\$256,795.00	3
BREATHITT	\$0.00	0
BRECKINRIDGE	\$0.00	0
BULLITT	\$0.00	0
BUTLER	\$0.00	0
CALDWELL	\$79,385,000.00	20
CALLOWAY	\$0.00	0
CAMPBELL	\$85,823,100.00	29
CARLISLE	\$0.00	0
CARROLL	\$0.00	0
CARTER	\$0.00	0
CASEY	\$622,000.00	1
CHRISTIAN	\$194,613,000.00	39
CLARK	\$58,602,200.00	21
CLAY	\$0.00	0
CLINTON	\$13,535.00	1
CRITTENDEN	\$3,765,800.00	10
CUMBERLAND	\$62,260,400.00	72
DAVISS	\$0.00	0
EDMONSON	\$667,616.00	12
ELLIOTT	\$0.00	0
ESTILL	\$0.00	0
FAYETTE	\$2,291,580,000.00	477
FLEMING	\$9,022,860.00	1
FLOYD	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
FRANKLIN	\$83,118,400.00	118
FULTON	\$0.00	0
GALLATIN	\$0.00	0
GARRARD	\$4,700.00	1
GRANT	\$1,210,240.00	14
GRAVES	\$0.00	0
GRAYSON	\$361,402,000.00	164
GREEN	\$103,246,000.00	34
GREENUP	\$0.00	0
HANCOCK	\$0.00	0
HARDIN	\$94,189,700.00	144
HARLAN	\$0.00	0
HARRISON	\$0.00	0
HART	\$115,294,000.00	90
HENDERSON	\$0.00	0
HENRY	\$45,500.00	2
HICKMAN	\$0.00	0
HOPKINS	\$0.00	0
JACKSON	\$0.00	0
JEFFERSON	\$0.00	0
JESSAMINE	\$61,446,000.00	17
JOHNSON	\$0.00	0
KENTON	\$13,653,900.00	16
KNOTT	\$0.00	0
KNOX	\$0.00	0
LARUE	\$55,610,500.00	40
LAUREL	\$0.00	0
LAWRENCE	\$0.00	0
LEE	\$0.00	0
LESLIE	\$0.00	0
LETCHER	\$0.00	0
LEWIS	\$0.00	0
LINCOLN	\$1,015,490.00	2
LIVINGSTON	\$47,861,200.00	2
LOGAN	\$101,682,000.00	19
LYON	\$672,602.00	4
MADISON	\$553,791,000.00	75
MAGOFFIN	\$0.00	0
MARION	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
MARSHALL	\$0.00	0
MARTIN	\$0.00	0
MASON	\$1,094,310.00	8
MCCRACKEN	\$0.00	0
MCCREARY	\$0.00	0
MCLEAN	\$0.00	0
MEADE	\$1,500,120.00	3
MENIFEE	\$0.00	0
MERCER	\$2,525,340.00	11
METCALFE	\$274,330.00	3
MONROE	\$4,968,900.00	12
MONTGOMERY	\$5,305,200.00	9
MORGAN	\$0.00	0
MUHLENBERG	\$0.00	0
NELSON	\$0.00	0
NICHOLAS	\$3,960,940.00	1
OHIO	\$0.00	0
OLDHAM	\$0.00	0
OWEN	\$15,826,300.00	54
OWSLEY	\$0.00	0
PENDLETON	\$0.00	0
PERRY	\$0.00	0
PIKE	\$0.00	0
POWELL	\$0.00	0
PULASKI	\$723,810,000.00	144
ROBERTSON	\$0.00	0
ROCKCASTLE	\$0.00	0
ROWAN	\$121,524.00	1
RUSSELL	\$25,110,300.00	90
SCOTT	\$20,117,600.00	10
SHELBY	\$2,601,780.00	9
SIMPSON	\$387,745,000.00	48
SPENCER	\$425,100.00	1
TAYLOR	\$206,197,000.00	62
TODD	\$626,428.00	4
TRIGG	\$9,846,990.00	3
TRIMBLE	\$723,799.00	4
UNION	\$0.00	0
WARREN	\$564,927,000.00	141

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
WASHINGTON	\$2,610,660.00	16
WAYNE	\$185,696,000.00	22
WEBSTER	\$0.00	0
WHITLEY	\$0.00	0
WOLFE	\$0.00	0
WOODFORD	\$532,895.00	9

Appendix 30: Mine Subsidence Jurisdictional Loss Estimates

NAME	LOSS ESTIMATE	MINE SUBSIDENCE LAYER BLOCKS
ADAIR	\$0.00	0
ALLEN	\$0.00	0
ANDERSON	\$0.00	0
BALLARD	\$0.00	0
BARREN	\$0.00	0
BATH	\$0.00	0
BELL	\$780,000.00	188
BOONE	\$0.00	0
BOURBON	\$0.00	0
BOYD	\$7,680,400.00	20
BOYLE	\$0.00	0
BRACKEN	\$0.00	0
BREATHITT	\$454,800.00	195
BRECKINRIDGE	\$0.00	0
BULLITT	\$0.00	0
BUTLER	\$1,420,200.00	70
CALDWELL	\$148,500.00	8
CALLOWAY	\$0.00	0
CAMPBELL	\$0.00	0
CARLISLE	\$0.00	0
CARROLL	\$0.00	0
CARTER	\$2,451,000.00	25
CASEY	\$0.00	0
CHRISTIAN	\$1,430,000.00	36
CLARK	\$0.00	0
CLAY	\$1,553,900.00	137
CLINTON	\$1,368,000.00	8
CRITTENDEN	\$602,300.00	7
CUMBERLAND	\$0.00	0
DAVISS	\$2,933,000.00	89
EDMONSON	\$6,069,000.00	3
ELLIOTT	\$1,425,000.00	23
ESTILL	\$0.00	0
FAYETTE	\$0.00	0
FLEMING	\$0.00	0
FLOYD	\$10,000,000.00	432

NAME	LOSS ESTIMATE	MINE SUBSIDENCE LAYER BLOCKS
FRANKLIN	\$0.00	0
FULTON	\$0.00	0
GALLATIN	\$0.00	0
GARRARD	\$0.00	0
GRANT	\$0.00	0
GRAVES	\$0.00	0
GRAYSON	\$802,500.00	1
GREEN	\$0.00	0
GREENUP	\$6,212,300.00	17
HANCOCK	\$715,000.00	7
HARDIN	\$0.00	0
HARLAN	\$0.00	384
HARRISON	\$0.00	0
HART	\$0.00	0
HENDERSON	\$139,400.00	285
HENRY	\$0.00	0
HICKMAN	\$0.00	0
HOPKINS	\$1,044,000.00	765
JACKSON	\$370,000.00	34
JEFFERSON	\$0.00	0
JESSAMINE	\$0.00	0
JOHNSON	\$436,000.00	206
KENTON	\$0.00	0
KNOTT	\$5,121,100.00	259
KNOX	\$1,924,000.00	133
LARUE	\$0.00	0
LAUREL	\$322,000.00	60
LAWRENCE	\$2,877,600.00	43
LEE	\$235,200.00	19
LESLIE	\$7,206,300.00	284
LETCHER	\$2,463,500.00	341
LEWIS	\$0.00	0
LINCOLN	\$0.00	0
LIVINGSTON	\$0.00	0
LOGAN	\$0.00	0
LYON	\$0.00	0
MADISON	\$0.00	0
MAGOFFIN	\$342,000.00	106
MARION	\$0.00	0

NAME	LOSS ESTIMATE	MINE SUBSIDENCE LAYER BLOCKS
MARSHALL	\$0.00	0
MARTIN	\$3,456,000.00	170
MASON	\$0.00	0
MCCRACKEN	\$0.00	0
MCCREARY	\$102,000.00	86
MCLEAN	\$2,205,000.00	52
MEADE	\$0.00	0
MENIFEE	\$0.00	0
MERCER	\$0.00	0
METCALFE	\$0.00	0
MONROE	\$0.00	0
MONTGOMERY	\$0.00	0
MORGAN	\$464,000.00	37
MUHLENBERG	\$234,400.00	907
NELSON	\$0.00	0
NICHOLAS	\$0.00	0
OHIO	\$0.00	187
OLDHAM	\$0.00	0
OWEN	\$0.00	0
OWSLEY	\$0.00	49
PENDLETON	\$0.00	0
PERRY	\$530,600.00	551
PIKE	\$6,985,600.00	581
POWELL	\$0.00	0
PULASKI	\$0.00	14
ROBERTSON	\$0.00	0
ROCKCASTLE	\$579,600.00	5
ROWAN	\$0.00	0
RUSSELL	\$0.00	0
SCOTT	\$0.00	0
SHELBY	\$0.00	0
SIMPSON	\$0.00	0
SPENCER	\$0.00	0
TAYLOR	\$0.00	0
TODD	\$0.00	0
TRIGG	\$0.00	0
TRIMBLE	\$0.00	0
UNION	\$139,400.00	453
WARREN	\$0.00	0

NAME	LOSS ESTIMATE	MINE SUBSIDENCE LAYER BLOCKS
WASHINGTON	\$0.00	0
WAYNE	\$1,368,000.00	5
WEBSTER	\$106,200.00	453
WHITLEY	\$0.00	154
WOLFE	\$881,600.00	19
WOODFORD	\$0.00	0

Appendix 31: Mine Subsidence State Facility Vulnerability and Loss Estimation

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
ADAIR	\$0.00	0
ALLEN	\$0.00	0
ANDERSON	\$0.00	0
BALLARD	\$0.00	0
BARREN	\$0.00	0
BATH	\$0.00	0
BELL	\$0.00	0
BOONE	\$0.00	0
BOURBON	\$0.00	0
BOYD	\$0.00	0
BOYLE	\$0.00	0
BRACKEN	\$0.00	0
BREATHITT	\$0.00	0
BRECKINRIDGE	\$0.00	0
BULLITT	\$0.00	0
BUTLER	\$0.00	0
CALDWELL	\$0.00	0
CALLOWAY	\$0.00	0
CAMPBELL	\$0.00	0
CARLISLE	\$0.00	0
CARROLL	\$0.00	0
CARTER	\$0.00	0
CASEY	\$0.00	0
CHRISTIAN	\$0.00	0
CLARK	\$0.00	0
CLAY	\$0.00	0
CLINTON	\$0.00	0
CRITTENDEN	\$0.00	0
CUMBERLAND	\$0.00	0
DAVISS	\$1,369,790.00	18
EDMONSON	\$0.00	0
ELLIOTT	\$0.00	0
ESTILL	\$0.00	0
FAYETTE	\$0.00	0
FLEMING	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
FLOYD	\$0.00	0
FRANKLIN	\$0.00	0
FULTON	\$0.00	0
GALLATIN	\$0.00	0
GARRARD	\$0.00	0
GRANT	\$0.00	0
GRAVES	\$0.00	0
GRAYSON	\$0.00	0
GREEN	\$0.00	0
GREENUP	\$0.00	0
HANCOCK	\$0.00	0
HARDIN	\$0.00	0
HARLAN	\$32,094.00	1
HARRISON	\$0.00	0
HART	\$0.00	0
HENDERSON	\$0.00	1
HENRY	\$0.00	0
HICKMAN	\$0.00	0
HOPKINS	\$10,528,100.00	4
JACKSON	\$0.00	0
JEFFERSON	\$0.00	0
JESSAMINE	\$0.00	0
JOHNSON	\$0.00	0
KENTON	\$0.00	0
KNOTT	\$0.00	0
KNOX	\$0.00	0
LARUE	\$0.00	0
LAUREL	\$0.00	0
LAWRENCE	\$0.00	0
LEE	\$0.00	0
LESLIE	\$0.00	0
LETCHER	\$0.00	0
LEWIS	\$0.00	0
LINCOLN	\$0.00	0
LIVINGSTON	\$0.00	0
LOGAN	\$0.00	0
LYON	\$0.00	0
MADISON	\$0.00	0
MAGOFFIN	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
MARION	\$0.00	0
MARSHALL	\$0.00	0
MARTIN	\$0.00	0
MASON	\$0.00	0
MCCRACKEN	\$0.00	0
MCCREARY	\$0.00	0
MCLEAN	\$0.00	0
MEADE	\$0.00	0
MENIFEE	\$0.00	0
MERCER	\$0.00	0
METCALFE	\$0.00	0
MONROE	\$0.00	0
MONTGOMERY	\$0.00	0
MORGAN	\$0.00	0
MUHLENBERG	\$2,743,160.00	7
NELSON	\$0.00	0
NICHOLAS	\$0.00	0
OHIO	\$0.00	0
OLDHAM	\$0.00	0
OWEN	\$0.00	0
OWSLEY	\$0.00	0
PENDLETON	\$0.00	0
PERRY	\$3,000.00	1
PIKE	\$0.00	0
POWELL	\$0.00	0
PULASKI	\$0.00	0
ROBERTSON	\$0.00	0
ROCKCASTLE	\$0.00	0
ROWAN	\$0.00	0
RUSSELL	\$0.00	0
SCOTT	\$0.00	0
SHELBY	\$0.00	0
SIMPSON	\$0.00	0
SPENCER	\$0.00	0
TAYLOR	\$0.00	0
TODD	\$0.00	0
TRIGG	\$0.00	0
TRIMBLE	\$0.00	0
UNION	\$2,232,180.00	5

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
WARREN	\$0.00	0
WASHINGTON	\$0.00	0
WAYNE	\$0.00	0
WEBSTER	\$22,468,900.00	34
WHITLEY	\$0.00	0
WOLFE	\$0.00	0
WOODFORD	\$0.00	0

Appendix 32: Landslide Jurisdictional Loss Estimates

NAME	LOSS ESTIMATE	LANDSLIDE LAYER BLOCKS
ADAIR	\$394,906,000.00	723
ALLEN	\$410,783,000.00	557
ANDERSON	\$575,253,000.00	326
BALLARD	\$72,466,200.00	188
BARREN	\$438,287,000.00	388
BATH	\$307,559,000.00	535
BELL	\$547,938,000.00	1,042
BOONE	\$4,004,350,000.00	858
BOURBON	\$93,184,200.00	92
BOYD	\$1,278,480,000.00	1,050
BOYLE	\$429,265,000.00	407
BRACKEN	\$210,130,000.00	298
BREATHITT	\$390,339,000.00	965
BRECKINRIDGE	\$116,390,000.00	141
BULLITT	\$2,343,520,000.00	1,002
BUTLER	\$284,418,000.00	689
CALDWELL	\$65,498,200.00	214
CALLOWAY	\$481,179,000.00	800
CAMPBELL	\$2,590,990,000.00	689
CARLISLE	\$40,949,000.00	93
CARROLL	\$164,724,000.00	236
CARTER	\$617,809,000.00	1,089
CASEY	\$340,837,000.00	710
CHRISTIAN	\$75,066,500.00	163
CLARK	\$756,878,000.00	408
CLAY	\$434,888,000.00	857
CLINTON	\$83,173,700.00	138
CRITTENDEN	\$30,118,800.00	197
CUMBERLAND	\$132,914,000.00	426
DAVIESS	\$1,365,150,000.00	826
EDMONSON	\$195,861,000.00	281
ELLIOTT	\$219,290,000.00	464
ESTILL	\$395,141,000.00	584
FAYETTE	\$3,530,600,000.00	309
FLEMING	\$373,529,000.00	757
FLOYD	\$982,414,000.00	1,283
FRANKLIN	\$766,506,000.00	318
FULTON	\$12,057,700.00	42

NAME	LOSS ESTIMATE	LANDSLIDE LAYER BLOCKS
GALLATIN	\$200,306,000.00	308
GARRARD	\$291,885,000.00	355
GRANT	\$694,187,000.00	551
GRAVES	\$320,798,000.00	425
GRAYSON	\$294,074,000.00	396
GREEN	\$88,543,500.00	93
GREENUP	\$809,939,000.00	1,045
HANCOCK	\$196,039,000.00	370
HARDIN	\$192,073,000.00	98
HARLAN	\$629,057,000.00	1,949
HARRISON	\$448,226,000.00	332
HART	\$78,523,700.00	83
HENDERSON	\$883,551,000.00	710
HENRY	\$491,960,000.00	415
HICKMAN	\$32,262,400.00	102
HOPKINS	\$1,098,620,000.00	1,870
JACKSON	\$291,254,000.00	555
JEFFERSON	\$25,754,200,000.00	6,069
JESSAMINE	\$135,474,000.00	36
JOHNSON	\$539,986,000.00	910
KENTON	\$5,070,320,000.00	1116
KNOTT	\$420,446,000.00	727
KNOX	\$679,524,000.00	963
LARUE	\$62,140,000.00	112
LAUREL	\$1,629,210,000.00	1,328
LAWRENCE	\$332,866,000.00	910
LEE	\$160,792,000.00	519
LESLIE	\$252,268,000.00	843
LETCHER	\$524,926,000.00	1,054
LEWIS	\$248,407,000.00	1,135
LINCOLN	\$538,249,000.00	663
LIVINGSTON	\$95,593,300.00	128
LOGAN	\$34,882,000.00	74
LYON	\$48,390,800.00	63
MADISON	\$1,440,100,000.00	1,044
MAGOFFIN	\$350,013,000.00	539
MARION	\$493,517,000.00	743
MARSHALL	\$773,725,000.00	770
MARTIN	\$313,562,000.00	585

NAME	LOSS ESTIMATE	LANDSLIDE LAYER BLOCKS
MASON	\$384,994,000.00	528
MCCRACKEN	\$866,141,000.00	373
MCCREARY	\$306,822,000.00	582
MCLEAN	\$230,117,000.00	533
MEADE	\$76,957,700.00	27
MENIFEE	\$181,587,000.00	410
MERCER	\$499,550,000.00	345
METCALFE	\$159,335,000.00	361
MONROE	\$186,748,000.00	527
MONTGOMERY	\$422,570,000.00	514
MORGAN	\$345,179,000.00	716
MUHLENBERG	\$761,149,000.00	1888
NELSON	\$1,228,100,000.00	962
NICHOLAS	\$169,540,000.00	425
OHIO	\$520,471,000.00	1122
OLDHAM	\$2,718,810,000.00	881
OWEN	\$283,164,000.00	459
OWSLEY	\$99,478,700.00	433
PENDLETON	\$377,754,000.00	391
PERRY	\$651,235,000.00	1,319
PIKE	\$1,816,270,000.00	1,846
POWELL	\$333,105,000.00	477
PULASKI	\$649,121,000.00	742
ROBERTSON	\$69,398,000.00	145
ROCKCASTLE	\$341,186,000.00	687
ROWAN	\$586,527,000.00	604
RUSSELL	\$371,678,000.00	552
SCOTT	\$423,235,000.00	255
SHELBY	\$881,058,000.00	463
SIMPSON	\$2,229,900.00	4
SPENCER	\$519,910,000.00	308
TAYLOR	\$456,747,000.00	439
TODD	\$24,178,700.00	93
TRIGG	\$65,797,600.00	58
TRIMBLE	\$281,342,000.00	295
UNION	\$265,492,000.00	770
WARREN	\$51,769,200.00	55
WASHINGTON	\$244,312,000.00	356
WAYNE	\$206,665,000.00	226

NAME	LOSS ESTIMATE	LANDSLIDE LAYER BLOCKS
WEBSTER	\$272,479,000.00	1,049
WHITLEY	\$820,729,000.00	1,094
WOLFE	\$165,499,000.00	462
WOODFORD	\$41,761,800.00	17

Appendix 33: Landslide State Facility Vulnerability and Loss Estimation

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
ADAIR	\$28,144,400.00	74
ALLEN	\$61,475.00	4
ANDERSON	\$1,942,290.00	1
BALLARD	\$638,854.00	12
BARREN	\$1,106,090.00	3
BATH	\$509,460.00	8
BELL	\$358,831.00	4
BOONE	\$7,618,190.00	17
BOURBON	\$0.00	0
BOYD	\$27,973,500.00	19
BOYLE	\$199,982.00	3
BRACKEN	\$0.00	0
BREATHITT	\$17,585,500.00	23
BRECKINRIDGE	\$0.00	0
BULLITT	\$6,144,670.00	22
BUTLER	\$57,706,300.00	28
CALDWELL	\$0.00	0
CALLOWAY	\$8,147,380.00	17
CAMPBELL	\$2,979,660.00	15
CARLISLE	\$0.00	0
CARROLL	\$0.00	0
CARTER	\$103,664,000.00	15
CASEY	\$18,405.00	2
CHRISTIAN	\$9,713,960.00	16
CLARK	\$9,751,910.00	24
CLAY	\$4,200.00	1
CLINTON	\$0.00	0
CRITTENDEN	\$0.00	0
CUMBERLAND	\$0.00	0
DAVISS	\$46,765,800.00	40
EDMONSON	\$311,699.00	1
ELLIOTT	\$0.00	0
ESTILL	\$13,096,900.00	38
FAYETTE	\$309,800.00	5
FLEMING	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
FLOYD	\$6,663,560.00	37
FRANKLIN	\$31,197,400.00	39
FULTON	\$8,445,360.00	1
GALLATIN	\$0.00	0
GARRARD	\$0.00	0
GRANT	\$162,100.00	1
GRAVES	\$370,000.00	1
GRAYSON	\$53,993,100.00	36
GREEN	\$0.00	0
GREENUP	\$758,200.00	3
HANCOCK	\$15,241,200.00	62
HARDIN	\$0.00	0
HARLAN	\$214,182,000.00	27
HARRISON	\$0.00	0
HART	\$0.00	0
HENDERSON	\$38,035,600.00	14
HENRY	\$17,771.00	2
HICKMAN	\$0.00	0
HOPKINS	\$254,826,000.00	92
JACKSON	\$0.00	0
JEFFERSON	\$177,348,000.00	157
JESSAMINE	\$0.00	0
JOHNSON	\$20,610,500.00	10
KENTON	\$213,695,000.00	26
KNOTT	\$1,398,900.00	9
KNOX	\$0.00	0
LARUE	\$429,774.00	3
LAUREL	\$4,353,390.00	43
LAWRENCE	\$16,839,800.00	79
LEE	\$555,130.00	5
LESLIE	\$2,786,230.00	15
LETCHER	\$1,267,710.00	3
LEWIS	\$0.00	0
LINCOLN	\$15,383,700.00	12
LIVINGSTON	\$0.00	0
LOGAN	\$0.00	0
LYON	\$0.00	0
MADISON	\$13,918,800.00	23
MAGOFFIN	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
MARION	\$410,479.00	5
MARSHALL	\$29,145,200.00	102
MARTIN	\$0.00	0
MASON	\$37,795,800.00	1
MCCRACKEN	\$0.00	0
MCCREARY	\$711,699.00	2
MCLEAN	\$4,898,270.00	25
MEADE	\$0.00	0
MENIFEE	\$0.00	0
MERCER	\$0.00	0
METCALFE	\$0.00	0
MONROE	\$0.00	0
MONTGOMERY	\$825,400.00	4
MORGAN	\$454,000.00	2
MUHLENBERG	\$34,945,500.00	60
NELSON	\$7,932,520.00	38
NICHOLAS	\$311,108.00	6
OHIO	\$66,248,100.00	46
OLDHAM	\$303,056,000.00	188
OWEN	\$26,000.00	2
OWSLEY	\$0.00	0
PENDLETON	\$0.00	0
PERRY	\$147,057.00	6
PIKE	\$5,583,530.00	13
POWELL	\$0.00	0
PULASKI	\$42,193,800.00	45
ROBERTSON	\$0.00	0
ROCKCASTLE	\$0.00	0
ROWAN	\$50,900,500.00	56
RUSSELL	\$667,355.00	5
SCOTT	\$0.00	0
SHELBY	\$0.00	0
SIMPSON	\$0.00	0
SPENCER	\$744,939.00	1
TAYLOR	\$721,395.00	12
TODD	\$0.00	0
TRIGG	\$0.00	0
TRIMBLE	\$3,567,070.00	6
UNION	\$6,007,720.00	21

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
WARREN	\$0.00	0
WASHINGTON	\$0.00	0
WAYNE	\$0.00	0
WEBSTER	\$67,425,400.00	59
WHITLEY	\$20,979,300.00	6
WOLFE	\$0.00	0
WOODFORD	\$0.00	0

Appendix 34: Severe Storm Jurisdictional Loss Estimates

NAME	AVERAGE ANNUAL RISK (ALR)
Adair	\$94,497.80
Allen	\$59,386.30
Anderson	\$35,804.40
Ballard	\$28,014.20
Barren	\$144,722.00
Bath	\$19,544.50
Bell	\$9,010.89
Boone	\$282,213.00
Bourbon	\$24,320.40
Boyd	\$39,732.00
Boyle	\$23,228.50
Bracken	\$46,429.90
Breathitt	\$22,856.70
Breckinridge	\$26,266.00
Bullitt	\$33,544.60
Butler	\$22,136.30
Caldwell	\$9,643.15
Calloway	\$38,267.80
Campbell	\$237,177.00
Carlisle	\$27,039.80
Carroll	\$12,881.30
Carter	\$62,166.50
Casey	\$187,268.00
Christian	\$71,838.70
Clark	\$199,066.00
Clay	\$38,354.30
Clinton	\$58,530.80
Crittenden	\$16,917.90
Cumberland	\$54,223.00
Daviess	\$121,185.00
Edmonson	\$17,757.20
Elliott	\$52,514.80
Estill	\$36,761.00
Fayette	\$237,632.00
Fleming	\$40,107.30
Floyd	\$18,489.10

NAME	AVERAGE ANNUAL RISK (ALR)
Franklin	\$41,347.00
Fulton	\$20,767.10
Gallatin	\$24,795.20
Garrard	\$44,203.30
Grant	\$15,697.50
Graves	\$30,553.50
Grayson	\$30,525.00
Green	\$42,526.70
Greenup	\$32,053.80
Hancock	\$21,667.10
Hardin	\$245,123.00
Harlan	\$30,386.70
Harrison	\$30,121.20
Hart	\$77,089.10
Henderson	\$20,657.30
Henry	\$24,709.20
Hickman	\$15,889.90
Hopkins	\$52,657.80
Jackson	\$9,912.34
Jefferson	\$53,042.70
Jessamine	\$50,118.00
Johnson	\$16,056.70
Kenton	\$276,479.00
Knott	\$16,440.30
Knox	\$10,771.00
Larue	\$25,298.10
Laurel	\$13,596.40
Lawrence	\$31,569.20
Lee	\$8,902.85
Leslie	\$17,585.90
Letcher	\$30,900.00
Lewis	\$30,222.50
Lincoln	\$29,665.40
Livingston	\$17,013.40
Logan	\$75,686.60
Lyon	\$13,254.00
Madison	\$30,424.20
Magoffin	\$17,574.40
Marion	\$31,331.50

NAME	AVERAGE ANNUAL RISK (ALR)
Marshall	\$70,584.00
Martin	\$14,936.00
Mason	\$50,337.90
McCracken	\$56,612.10
McCreary	\$61,878.60
McLean	\$25,561.20
Meade	\$38,494.10
Menifee	\$17,027.90
Mercer	\$41,305.10
Metcalf	\$75,195.00
Monroe	\$81,380.40
Montgomery	\$42,730.00
Morgan	\$30,213.60
Muhlenberg	\$38,622.70
Nelson	\$21,014.40
Nicholas	\$35,457.00
Ohio	\$26,327.50
Oldham	\$23,304.00
Owen	\$22,385.40
Owsley	\$13,927.60
Pendleton	\$34,197.30
Perry	\$18,345.00
Pike	\$37,508.40
Powell	\$18,293.10
Pulaski	\$145,626.00
Robertson	\$17,186.00
Rockcastle	\$21,055.00
Rowan	\$19,815.60
Russell	\$60,985.90
Scott	\$63,682.50
Shelby	\$46,644.60
Simpson	\$305,028.00
Spencer	\$11,794.10
Taylor	\$57,867.90
Todd	\$52,404.80
Trigg	\$9,059.63
Trimble	\$22,104.00
Union	\$13,777.80
Warren	\$82,775.90

NAME	AVERAGE ANNUAL RISK (ALR)
Washington	\$31,305.00
Wayne	\$66,883.10
Webster	\$38,756.90
Whitley	\$9,685.51
Wolfe	\$13,333.90
Woodford	\$18,389.70

Appendix 35: Severe Storm State Facility Vulnerability and Loss Estimation

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
ADAIR	\$0.00	0
ALLEN	\$0.00	0
ANDERSON	\$0.00	0
BALLARD	\$0.00	0
BARREN	\$17,045,100.00	5
BATH	\$0.00	0
BELL	\$0.00	0
BOONE	\$9,856,990.00	19
BOURBON	\$0.00	0
BOYD	\$0.00	0
BOYLE	\$0.00	0
BRACKEN	\$0.00	0
BREATHITT	\$0.00	0
BRECKINRIDGE	\$0.00	0
BULLITT	\$0.00	0
BUTLER	\$0.00	0
CALDWELL	\$0.00	0
CALLOWAY	\$0.00	0
CAMPBELL	\$33,977,000.00	23
CARLISLE	\$0.00	0
CARROLL	\$0.00	0
CARTER	\$0.00	0
CASEY	\$0.00	0
CHRISTIAN	\$0.00	0
CLARK	\$5,342,040.00	24
CLAY	\$0.00	0
CLINTON	\$0.00	0
CRITTENDEN	\$0.00	0
CUMBERLAND	\$0.00	0
DAVISS	\$0.00	0
EDMONSON	\$0.00	0
ELLIOTT	\$0.00	0
ESTILL	\$0.00	0
FAYETTE	\$1,400,100,000.00	442
FLEMING	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
FLOYD	\$0.00	0
FRANKLIN	\$1,966,810.00	4
FULTON	\$0.00	0
GALLATIN	\$0.00	0
GARRARD	\$0.00	0
GRANT	\$0.00	0
GRAVES	\$0.00	0
GRAYSON	\$0.00	0
GREEN	\$0.00	0
GREENUP	\$0.00	0
HANCOCK	\$0.00	0
HARDIN	\$94,099,500.00	140
HARLAN	\$0.00	0
HARRISON	\$0.00	0
HART	\$0.00	0
HENDERSON	\$0.00	0
HENRY	\$0.00	0
HICKMAN	\$0.00	0
HOPKINS	\$0.00	0
JACKSON	\$0.00	0
JEFFERSON	\$57,785.00	2
JESSAMINE	\$0.00	0
JOHNSON	\$0.00	0
KENTON	\$243,517,000.00	56
KNOTT	\$0.00	0
KNOX	\$0.00	0
LARUE	\$60,400.00	1
LAUREL	\$0.00	0
LAWRENCE	\$0.00	0
LEE	\$0.00	0
LESLIE	\$0.00	0
LETCHER	\$0.00	0
LEWIS	\$0.00	0
LINCOLN	\$0.00	0
LIVINGSTON	\$0.00	0
LOGAN	\$0.00	0
LYON	\$0.00	0
MADISON	\$0.00	0
MAGOFFIN	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
MARION	\$0.00	0
MARSHALL	\$0.00	0
MARTIN	\$0.00	0
MASON	\$0.00	0
MCCRACKEN	\$0.00	0
MCCREARY	\$0.00	0
MCLEAN	\$0.00	0
MEADE	\$0.00	0
MENIFEE	\$0.00	0
MERCER	\$0.00	0
METCALFE	\$0.00	0
MONROE	\$0.00	0
MONTGOMERY	\$0.00	0
MORGAN	\$0.00	0
MUHLENBERG	\$0.00	0
NELSON	\$0.00	0
NICHOLAS	\$0.00	0
OHIO	\$0.00	0
OLDHAM	\$0.00	0
OWEN	\$0.00	0
OWSLEY	\$0.00	0
PENDLETON	\$0.00	0
PERRY	\$0.00	0
PIKE	\$0.00	0
POWELL	\$0.00	0
PULASKI	\$542,002,000.00	170
ROBERTSON	\$0.00	0
ROCKCASTLE	\$0.00	0
ROWAN	\$0.00	0
RUSSELL	\$0.00	0
SCOTT	\$0.00	0
SHELBY	\$0.00	0
SIMPSON	\$387,711,000.00	47
SPENCER	\$0.00	0
TAYLOR	\$0.00	0
TODD	\$0.00	0
TRIGG	\$0.00	0
TRIMBLE	\$0.00	0
UNION	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
WARREN	\$3,702,280.00	3
WASHINGTON	\$0.00	0
WAYNE	\$0.00	0
WEBSTER	\$0.00	0
WHITLEY	\$0.00	0
WOLFE	\$0.00	0
WOODFORD	\$0.00	0

Appendix 36: Severe Winter Storm Jurisdictional Loss Estimates

NAME	AVERAGE ANNUAL RISK (ALR)
Adair	\$20,936.70
Allen	\$20,858.60
Anderson	\$60,658.60
Ballard	\$48,867.40
Barren	\$21,207.30
Bath	\$29,724.80
Bell	\$28,249.20
Boone	\$39,493.30
Bourbon	\$87,481.70
Boyd	\$68,658.20
Boyle	\$60,658.60
Bracken	\$39,683.80
Breathitt	\$29,049.40
Breckinridge	\$33,416.10
Bullitt	\$32,530.70
Butler	\$22,049.00
Caldwell	\$48,867.40
Calloway	\$48,123.50
Campbell	\$39,493.30
Carlisle	\$48,123.50
Carroll	\$38,919.60
Carter	\$68,909.00
Casey	\$20,121.00
Christian	\$21,004.40
Clark	\$60,580.60
Clay	\$28,360.40
Clinton	\$20,121.00
Crittenden	\$33,029.20
Cumberland	\$41,269.60
Daviess	\$33,062.30
Edmonson	\$21,129.20
Elliott	\$29,042.90
Estill	\$28,706.50
Fayette	\$61,622.20
Fleming	\$56,732.00
Floyd	\$28,351.40

NAME	AVERAGE ANNUAL RISK (ALR)
Franklin	\$71,749.50
Fulton	\$48,123.50
Gallatin	\$38,919.60
Garrard	\$60,658.60
Grant	\$39,092.10
Graves	\$48,123.50
Grayson	\$49,480.90
Green	\$20,936.70
Greenup	\$68,765.50
Hancock	\$32,452.50
Hardin	\$57,297.20
Harlan	\$28,633.50
Harrison	\$87,509.60
Hart	\$21,207.30
Henderson	\$35,228.90
Henry	\$31,818.50
Hickman	\$48,123.50
Hopkins	\$48,900.40
Jackson	\$28,877.70
Jefferson	\$33,271.20
Jessamine	\$60,658.60
Johnson	\$28,685.90
Kenton	\$39,493.30
Knott	\$28,340.00
Knox	\$28,318.80
Larue	\$21,771.00
Laurel	\$28,612.70
Lawrence	\$41,045.60
Lee	\$28,587.70
Leslie	\$28,340.00
Letcher	\$28,702.90
Lewis	\$55,435.20
Lincoln	\$20,121.00
Livingston	\$33,029.20
Logan	\$21,129.20
Lyon	\$48,051.60
Madison	\$60,658.60
Magoffin	\$28,821.40
Marion	\$61,474.50

NAME	AVERAGE ANNUAL RISK (ALR)
Marshall	\$48,867.40
Martin	\$28,549.30
Mason	\$55,445.90
McCracken	\$48,864.10
McCreary	\$28,687.50
McLean	\$48,897.00
Meade	\$32,527.10
Menifee	\$28,575.00
Mercer	\$60,655.30
Metcalfe	\$20,933.30
Monroe	\$41,265.90
Montgomery	\$29,108.90
Morgan	\$28,575.00
Muhlenberg	\$48,864.10
Nelson	\$57,294.00
Nicholas	\$88,097.60
Ohio	\$48,286.90
Oldham	\$32,380.00
Owen	\$39,166.90
Owsley	\$28,695.20
Pendleton	\$39,088.50
Perry	\$28,406.10
Pike	\$28,621.30
Powell	\$28,466.90
Pulaski	\$28,730.00
Robertson	\$39,454.00
Rockcastle	\$28,448.80
Rowan	\$56,832.50
Russell	\$20,933.30
Scott	\$88,547.40
Shelby	\$32,555.00
Simpson	\$20,855.00
Spencer	\$32,527.10
Taylor	\$20,933.30
Todd	\$21,000.90
Trigg	\$48,119.90
Trimble	\$32,067.10
Union	\$33,058.80
Warren	\$21,125.60

NAME	AVERAGE ANNUAL RISK (ALR)
Washington	\$61,471.00
Wayne	\$28,448.80
Webster	\$33,058.80
Whitley	\$28,370.70
Wolfe	\$29,616.70
Woodford	\$60,655.30

Appendix 37: Severe Winter Storm State Facility Vulnerability and Loss Estimation

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
ADAIR	\$9,856,990.00	19
ALLEN	\$33,977,000.00	23
ANDERSON	\$243,517,000.00	56
BALLARD	\$0.00	0
BARREN	\$56,312.00	3
BATH	\$265,995.00	4
BELL	\$1,372,340.00	15
BOONE	\$1,257,400.00	6
BOURBON	\$0.00	0
BOYD	\$21,400.00	1
BOYLE	\$0.00	0
BRACKEN	\$0.00	0
BREATHITT	\$15,816,100.00	55
BRECKINRIDGE	\$0.00	0
BULLITT	\$0.00	0
BUTLER	\$0.00	0
CALDWELL	\$34,948,800.00	23
CALLOWAY	\$0.00	0
CAMPBELL	\$103,882,000.00	19
CARLISLE	\$35,584,500.00	45
CARROLL	\$0.00	0
CARTER	\$0.00	0
CASEY	\$53,703,300.00	75
CHRISTIAN	\$0.00	0
CLARK	\$13,979,100.00	43
CLAY	\$68,879,600.00	54
CLINTON	\$763,385.00	1
CRITTENDEN	\$0.00	0
CUMBERLAND	\$0.00	0
DAVISS	\$0.00	0
EDMONSON	\$481,011,000.00	302
ELLIOTT	\$0.00	0
ESTILL	\$0.00	0
FAYETTE	\$286,143.00	4
FLEMING	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
FLOYD	\$0.00	0
FRANKLIN	\$0.00	0
FULTON	\$5,342,040.00	24
GALLATIN	\$3,632,830.00	20
GARRARD	\$0.00	0
GRANT	\$0.00	0
GRAVES	\$0.00	0
GRAYSON	\$11,861,000.00	1
GREEN	\$0.00	0
GREENUP	\$29,721,500.00	23
HANCOCK	\$0.00	0
HARDIN	\$301,789.00	4
HARLAN	\$1,500.00	1
HARRISON	\$0.00	0
HART	\$0.00	0
HENDERSON	\$0.00	0
HENRY	\$275,740,000.00	40
HICKMAN	\$0.00	0
HOPKINS	\$1,357,450.00	1
JACKSON	\$0.00	0
JEFFERSON	\$0.00	0
JESSAMINE	\$0.00	0
JOHNSON	\$0.00	0
KENTON	\$0.00	0
KNOTT	\$2,561,830.00	10
KNOX	\$0.00	0
LARUE	\$0.00	0
LAUREL	\$123,497.00	4
LAWRENCE	\$0.00	0
LEE	\$0.00	0
LESLIE	\$0.00	0
LETCHER	\$0.00	0
LEWIS	\$0.00	0
LINCOLN	\$0.00	0
LIVINGSTON	\$37,400,600.00	26
LOGAN	\$0.00	0
LYON	\$0.00	0
MADISON	\$0.00	0
MAGOFFIN	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
MARION	\$0.00	0
MARSHALL	\$0.00	0
MARTIN	\$0.00	0
MASON	\$0.00	0
MCCRACKEN	\$0.00	0
MCCREARY	\$0.00	0
MCLEAN	\$0.00	0
MEADE	\$0.00	0
MENIFEE	\$0.00	0
MERCER	\$0.00	0
METCALFE	\$0.00	0
MONROE	\$0.00	0
MONTGOMERY	\$0.00	0
MORGAN	\$0.00	0
MUHLENBERG	\$0.00	0
NELSON	\$0.00	0
NICHOLAS	\$0.00	0
OHIO	\$0.00	0
OLDHAM	\$0.00	0
OWEN	\$0.00	0
OWSLEY	\$0.00	0
PENDLETON	\$0.00	0
PERRY	\$0.00	0
PIKE	\$0.00	0
POWELL	\$0.00	0
PULASKI	\$0.00	0
ROBERTSON	\$14,397,900.00	70
ROCKCASTLE	\$0.00	0
ROWAN	\$0.00	0
RUSSELL	\$0.00	0
SCOTT	\$0.00	0
SHELBY	\$0.00	0
SIMPSON	\$0.00	0
SPENCER	\$0.00	0
TAYLOR	\$0.00	0
TODD	\$0.00	0
TRIGG	\$0.00	0
TRIMBLE	\$0.00	0
UNION	\$794,514.00	8

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
WARREN	\$0.00	0
WASHINGTON	\$0.00	0
WAYNE	\$0.00	0
WEBSTER	\$0.00	0
WHITLEY	\$0.00	0
WOLFE	\$0.00	0
WOODFORD	\$0.00	0

Appendix 38: Tornado Jurisdictional Loss Estimates

NAME	AVERAGE ANNUAL RISK (ALR)
Adair	\$174,945.00
Allen	\$26,312.40
Anderson	\$95,918.50
Ballard	\$11,689.40
Barren	\$363,640.00
Bath	\$6,288.37
Bell	\$162,754.00
Boone	\$56,603.70
Bourbon	\$1,196.43
Boyd	\$8,730.21
Boyle	\$170,937.00
Bracken	\$186,572.00
Breathitt	\$6,691.81
Breckinridge	\$44,895.00
Bullitt	\$2,374,360.00
Butler	\$44,509.60
Caldwell	\$21,164.00
Calloway	\$54,892.60
Campbell	\$7,511.78
Carlisle	\$4,458.14
Carroll	\$15,401.40
Carter	\$7,126.66
Casey	\$20,609.50
Christian	\$779,585.00
Clark	\$18,913.90
Clay	\$21,116.20
Clinton	\$21,878.60
Crittenden	\$17,654.50
Cumberland	\$20,160.20
Daviess	\$244,408.00
Edmonson	\$5,105.45
Elliott	\$4,397.46
Estill	\$37,416.90
Fayette	\$325,146.00
Fleming	\$7,853.29
Floyd	\$627.04

NAME	AVERAGE ANNUAL RISK (ALR)
Franklin	\$26,208.30
Fulton	\$5,941.03
Gallatin	\$722.16
Garrard	\$14,971.40
Grant	\$4,333.67
Graves	\$13,052.20
Grayson	\$1,117,860.00
Green	\$49,254.40
Greenup	\$53,741.20
Hancock	\$4,324.47
Hardin	\$180,607.00
Harlan	\$13,537.40
Harrison	\$50,541.50
Hart	\$92,991.00
Henderson	\$164,577.00
Henry	\$181,005.00
Hickman	\$6,799.12
Hopkins	\$659,596.00
Jackson	\$658.39
Jefferson	\$258,628.00
Jessamine	\$6,987.79
Johnson	\$2,099.17
Kenton	\$14,663.00
Knott	\$627.04
Knox	\$2,203.40
Larue	\$82,949.80
Laurel	\$444,574.00
Lawrence	\$661.84
Lee	\$32,698.30
Leslie	\$1,058.07
Letcher	\$3,708.94
Lewis	\$109,321.00
Lincoln	\$207,490.00
Livingston	\$10,211.20
Logan	\$47,349.20
Lyon	\$15,175.60
Madison	\$472,231.00
Magoffin	\$466.94
Marion	\$12,941.70

NAME	AVERAGE ANNUAL RISK (ALR)
Marshall	\$171,950.00
Martin	\$661.84
Mason	\$198,048.00
McCracken	\$19,424.30
McCreary	\$5,025.09
McLean	\$49,546.70
Meade	\$67,513.60
Menifee	\$3,436.09
Mercer	\$343,180.00
Metcalfe	\$145,405.00
Monroe	\$74,203.30
Montgomery	\$7,528.79
Morgan	\$2,932.78
Muhlenberg	\$446,954.00
Nelson	\$16,771.30
Nicholas	\$681.12
Ohio	\$62,656.30
Oldham	\$118,336.00
Owen	\$93,876.70
Owsley	\$6,830.62
Pendleton	\$186,178.00
Perry	\$627.04
Pike	\$740.52
Powell	\$41,102.80
Pulaski	\$87,622.40
Robertson	\$681.12
Rockcastle	\$166,188.00
Rowan	\$2,104.23
Russell	\$50,364.00
Scott	\$47,784.70
Shelby	\$160,488.00
Simpson	\$83,227.20
Spencer	\$44,023.90
Taylor	\$28,884.80
Todd	\$69,311.10
Trigg	\$59,024.60
Trimble	\$16,889.10
Union	\$15,817.40
Warren	\$64,695.90

NAME	AVERAGE ANNUAL RISK (ALR)
Washington	\$6,016.52
Wayne	\$58,208.90
Webster	\$402,108.00
Whitley	\$2,351.17
Wolfe	\$869.00
Woodford	\$14,106.70

Appendix 39: Tornado State Facility Vulnerability and Loss Estimation

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
ADAIR	\$0.00	0
ALLEN	\$0.00	0
ANDERSON	\$0.00	0
BALLARD	\$0.00	0
BARREN	\$0.00	0
BATH	\$0.00	0
BELL	\$0.00	0
BOONE	\$0.00	0
BOURBON	\$0.00	0
BOYD	\$0.00	0
BOYLE	\$0.00	0
BRACKEN	\$0.00	0
BREATHITT	\$0.00	0
BRECKINRIDGE	\$0.00	0
BULLITT	\$10,730,200.00	24
BUTLER	\$0.00	0
CALDWELL	\$0.00	0
CALLOWAY	\$0.00	0
CAMPBELL	\$0.00	0
CARLISLE	\$0.00	0
CARROLL	\$0.00	0
CARTER	\$0.00	0
CASEY	\$0.00	0
CHRISTIAN	\$124,816,000.00	8
CLARK	\$505,375.00	3
CLAY	\$0.00	0
CLINTON	\$0.00	0
CRITTENDEN	\$0.00	0
CUMBERLAND	\$0.00	0
DAVIESS	\$0.00	0
EDMONSON	\$0.00	0
ELLIOTT	\$0.00	0
ESTILL	\$0.00	0
FAYETTE	\$7,510,610.00	6
FLEMING	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
FLOYD	\$0.00	0
FRANKLIN	\$65,372,600.00	46
FULTON	\$0.00	0
GALLATIN	\$0.00	0
GARRARD	\$0.00	0
GRANT	\$0.00	0
GRAVES	\$0.00	0
GRAYSON	\$145,392,000.00	37
GREEN	\$0.00	0
GREENUP	\$0.00	0
HANCOCK	\$0.00	0
HARDIN	\$0.00	0
HARLAN	\$0.00	0
HARRISON	\$0.00	0
HART	\$7,587,550.00	3
HENDERSON	\$0.00	0
HENRY	\$17,771.00	2
HICKMAN	\$0.00	0
HOPKINS	\$10,654,500.00	2
JACKSON	\$0.00	0
JEFFERSON	\$0.00	0
JESSAMINE	\$0.00	0
JOHNSON	\$0.00	0
KENTON	\$0.00	0
KNOTT	\$0.00	0
KNOX	\$0.00	0
LARUE	\$123,497.00	4
LAUREL	\$1,347,040.00	33
LAWRENCE	\$0.00	0
LEE	\$0.00	0
LESLIE	\$0.00	0
LETCHER	\$0.00	0
LEWIS	\$0.00	0
LINCOLN	\$0.00	0
LIVINGSTON	\$0.00	0
LOGAN	\$44,325.00	4
LYON	\$0.00	0
MADISON	\$0.00	0
MAGOFFIN	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
MARION	\$0.00	0
MARSHALL	\$0.00	0
MARTIN	\$0.00	0
MASON	\$0.00	0
MCCRACKEN	\$0.00	0
MCCREARY	\$701,606.00	1
MCLEAN	\$0.00	0
MEADE	\$0.00	0
MENIFEE	\$0.00	0
MERCER	\$0.00	0
METCALFE	\$0.00	0
MONROE	\$0.00	0
MONTGOMERY	\$0.00	0
MORGAN	\$0.00	0
MUHLENBERG	\$13,000.00	1
NELSON	\$0.00	0
NICHOLAS	\$0.00	0
OHIO	\$0.00	0
OLDHAM	\$679,685.00	4
OWEN	\$0.00	0
OWSLEY	\$0.00	0
PENDLETON	\$0.00	0
PERRY	\$0.00	0
PIKE	\$0.00	0
POWELL	\$0.00	0
PULASKI	\$3,000.00	1
ROBERTSON	\$0.00	0
ROCKCASTLE	\$0.00	0
ROWAN	\$0.00	0
RUSSELL	\$0.00	0
SCOTT	\$0.00	0
SHELBY	\$0.00	0
SIMPSON	\$0.00	0
SPENCER	\$0.00	0
TAYLOR	\$0.00	0
TODD	\$0.00	0
TRIGG	\$0.00	0
TRIMBLE	\$0.00	0
UNION	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
WARREN	\$95,800.00	1
WASHINGTON	\$0.00	0
WAYNE	\$0.00	0
WEBSTER	\$0.00	0
WHITLEY	\$0.00	0
WOLFE	\$0.00	0
WOODFORD	\$0.00	0

Appendix 40: Wildfire Jurisdictional Loss Estimates

NAME	LOSS ESTIMATE	LEVEL (3) CENSUS BLOCKS
BOONE	\$0.00	0
CAMPBELL	\$0.00	0
KENTON	\$0.00	0
PENDLETON	\$0.00	0
GALLATIN	\$0.00	0
BRACKEN	\$0.00	0
GRANT	\$0.00	0
GREENUP	\$122,520,000.00	190
MASON	\$0.00	0
CARROLL	\$0.00	0
LEWIS	\$6,338,400.00	5
TRIMBLE	\$0.00	0
OWEN	\$0.00	0
ROBERTSON	\$0.00	0
HENRY	\$0.00	0
HARRISON	\$0.00	0
BOYD	\$74,367,400.00	43
FLEMING	\$0.00	0
CARTER	\$139,850,000.00	122
OLDHAM	\$0.00	0
SCOTT	\$0.00	0
NICHOLAS	\$0.00	0
ROWAN	\$2,827,000.00	1
BOURBON	\$0.00	0
JEFFERSON	\$0.00	0
FRANKLIN	\$0.00	0
SHELBY	\$0.00	0
BATH	\$0.00	0
LAWRENCE	\$92,294,500.00	157
ELLIOTT	\$33,069,500.00	21
FAYETTE	\$0.00	0
MONTGOMERY	\$41,922,600.00	15
MEADE	\$0.00	0
WOODFORD	\$0.00	0
SPENCER	\$0.00	0
MORGAN	\$86,670,800.00	139

NAME	LOSS ESTIMATE	LEVEL (3) CENSUS BLOCKS
ANDERSON	\$0.00	0
CLARK	\$18,749,000.00	7
BULLITT	\$33,615,000.00	20
MENIFEE	\$0.00	0
BRECKINRIDGE	\$0.00	0
JOHNSON	\$176,088,000.00	179
JESSAMINE	\$0.00	0
MARTIN	\$284,637,000.00	414
HARDIN	\$0.00	1
HANCOCK	\$0.00	0
NELSON	\$0.00	0
HENDERSON	\$0.00	0
MERCER	\$0.00	0
POWELL	\$80,777,900.00	60
DAVISS	\$0.00	0
MADISON	\$4,207,300.00	5
MAGOFFIN	\$253,922,000.00	295
UNION	\$0.00	0
WASHINGTON	\$0.00	0
WOLFE	\$32,798,100.00	36
ESTILL	\$109,874,000.00	139
GARRARD	\$0.00	0
FLOYD	\$700,615,000.00	589
PIKE	\$918,148,000.00	484
OHIO	\$0.00	0
LEE	\$58,638,900.00	128
LARUE	\$0.00	0
MARION	\$0.00	0
BREATHITT	\$139,184,000.00	158
BOYLE	\$0.00	0
MCLEAN	\$0.00	0
WEBSTER	\$0.00	0
LINCOLN	\$0.00	0
GRAYSON	\$0.00	0
JACKSON	\$40,411,800.00	63
HOPKINS	\$3,787,600.00	14
CRITTENDEN	\$0.00	0
OWSLEY	\$34,948,000.00	90
KNOTT	\$342,654,000.00	385

NAME	LOSS ESTIMATE	LEVEL (3) CENSUS BLOCKS
CASEY	\$0.00	0
ROCKCASTLE	\$35,050,800.00	80
TAYLOR	\$0.00	0
GREEN	\$0.00	0
PERRY	\$300,037,000.00	435
LIVINGSTON	\$0.00	0
HART	\$0.00	0
MUHLENBERG	\$2,485,800.00	6
BUTLER	\$0.00	0
CALDWELL	\$0.00	0
CLAY	\$285,442,000.00	393
PULASKI	\$0.00	0
LAUREL	\$15,549,100.00	16
LESLIE	\$87,788,600.00	191
EDMONSON	\$0.00	0
ADAIR	\$0.00	0
LETCHER	\$194,560,000.00	184
BALLARD	\$0.00	0
MCCRACKEN	\$0.00	0
LYON	\$0.00	0
WARREN	\$0.00	0
RUSSELL	\$3,160,900.00	9
METCALFE	\$2,069,200.00	2
CHRISTIAN	\$0.00	0
BARREN	\$0.00	0
MARSHALL	\$0.00	0
TODD	\$0.00	0
LOGAN	\$0.00	0
KNOX	\$270,798,000.00	338
HARLAN	\$56,902,800.00	111
TRIGG	\$0.00	0
WAYNE	\$36,286,000.00	45
CARLISLE	\$0.00	0
GRAVES	\$0.00	0
WHITLEY	\$59,142,500.00	119
BELL	\$163,682,000.00	286
MCCREARY	\$0.00	0
CUMBERLAND	\$9,053,600.00	44
ALLEN	\$0.00	0

NAME	LOSS ESTIMATE	LEVEL (3) CENSUS BLOCKS
CLINTON	\$18,995,000.00	30
SIMPSON	\$0.00	0
HICKMAN	\$0.00	0
MONROE	\$16,319,400.00	51
CALLOWAY	\$0.00	0
FULTON	\$0.00	0

Appendix 41: Wildfire State Facility Vulnerability and Loss Estimation

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
ADAIR	\$0.00	0
ALLEN	\$0.00	0
ANDERSON	\$0.00	0
BALLARD	\$0.00	0
BARREN	\$0.00	0
BATH	\$0.00	0
BELL	\$0.00	0
BOONE	\$0.00	0
BOURBON	\$0.00	0
BOYD	\$0.00	0
BOYLE	\$0.00	0
BRACKEN	\$0.00	0
BREATHITT	\$0.00	0
BRECKINRIDGE	\$0.00	0
BULLITT	\$0.00	0
BUTLER	\$0.00	0
CALDWELL	\$0.00	0
CALLOWAY	\$0.00	0
CAMPBELL	\$0.00	0
CARLISLE	\$0.00	0
CARROLL	\$0.00	0
CARTER	\$0.00	0
CASEY	\$0.00	0
CHRISTIAN	\$0.00	0
CLARK	\$0.00	0
CLAY	\$0.00	0
CLINTON	\$0.00	0
CRITTENDEN	\$0.00	0
CUMBERLAND	\$0.00	0
DAVIESS	\$0.00	0
EDMONSON	\$0.00	0
ELLIOTT	\$0.00	0
ESTILL	\$0.00	0
FAYETTE	\$0.00	0
FLEMING	\$0.00	0
FLOYD	\$0.00	0

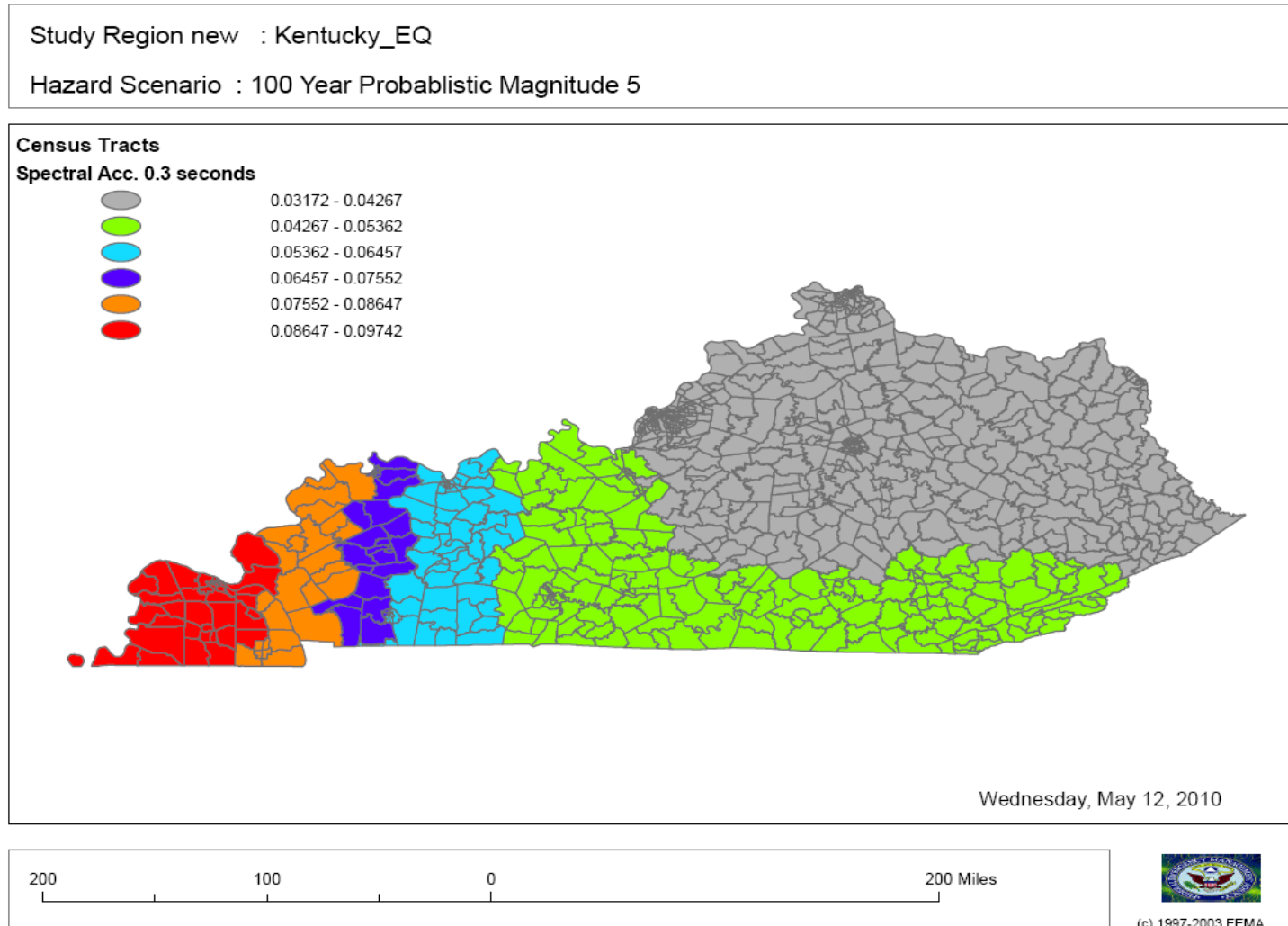
NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
FRANKLIN	\$0.00	0
FULTON	\$0.00	0
GALLATIN	\$0.00	0
GARRARD	\$0.00	0
GRANT	\$0.00	0
GRAVES	\$0.00	0
GRAYSON	\$0.00	0
GREEN	\$0.00	0
GREENUP	\$19,200.00	1
HANCOCK	\$0.00	0
HARDIN	\$0.00	0
HARLAN	\$0.00	0
HARRISON	\$0.00	0
HART	\$0.00	0
HENDERSON	\$0.00	0
HENRY	\$0.00	0
HICKMAN	\$0.00	0
HOPKINS	\$10,654,500.00	2
JACKSON	\$0.00	0
JEFFERSON	\$0.00	0
JESSAMINE	\$0.00	0
JOHNSON	\$0.00	0
KENTON	\$0.00	0
KNOTT	\$4,000.00	1
KNOX	\$0.00	0
LARUE	\$0.00	0
LAUREL	\$0.00	0
LAWRENCE	\$0.00	0
LEE	\$0.00	0
LESLIE	\$0.00	0
LETCHER	\$0.00	0
LEWIS	\$0.00	0
LINCOLN	\$0.00	0
LIVINGSTON	\$0.00	0
LOGAN	\$0.00	0
LYON	\$0.00	0
MADISON	\$0.00	0
MAGOFFIN	\$0.00	0
MARION	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
MARSHALL	\$0.00	0
MARTIN	\$0.00	0
MASON	\$0.00	0
MCCRACKEN	\$0.00	0
MCCREARY	\$0.00	0
MCLEAN	\$0.00	0
MEADE	\$0.00	0
MENIFEE	\$0.00	0
MERCER	\$0.00	0
METCALFE	\$0.00	0
MONROE	\$0.00	0
MONTGOMERY	\$0.00	0
MORGAN	\$0.00	0
MUHLENBERG	\$0.00	0
NELSON	\$0.00	0
NICHOLAS	\$0.00	0
OHIO	\$0.00	0
OLDHAM	\$0.00	0
OWEN	\$0.00	0
OWSLEY	\$0.00	0
PENDLETON	\$0.00	0
PERRY	\$3,000.00	1
PIKE	\$851,063.00	6
POWELL	\$0.00	0
PULASKI	\$0.00	0
ROBERTSON	\$0.00	0
ROCKCASTLE	\$0.00	0
ROWAN	\$0.00	0
RUSSELL	\$0.00	0
SCOTT	\$0.00	0
SHELBY	\$0.00	0
SIMPSON	\$0.00	0
SPENCER	\$0.00	0
TAYLOR	\$0.00	0
TODD	\$0.00	0
TRIGG	\$0.00	0
TRIMBLE	\$0.00	0
UNION	\$0.00	0
WARREN	\$0.00	0

NAME	REPLACEMENT COST	STATE FACILITIES PER COUNTY
WASHINGTON	\$0.00	0
WAYNE	\$0.00	0
WEBSTER	\$0.00	0
WHITLEY	\$0.00	0
WOLFE	\$0.00	0
WOODFORD	\$0.00	0

Appendix 42: HAZUS Earthquake Results

The following Map displays vulnerability for the state of Kentucky from a 100 Year Probabilistic HAZUS run.



HAZUS-MH: Earthquake Event Report

Region Name: Kentucky_EQ

Earthquake Scenario: Level5

Print Date: May 12, 2010

Totals only reflect data for those census tracts/blocks included in the user's study region.

Disclaimer:

The estimates of social and economic impacts contained in this report were produced using HAZUS loss estimation methodology software which is based on current scientific and engineering knowledge. There are uncertainties inherent in any loss estimation technique. Therefore, there may be significant differences between the modeled results contained in this report and the actual social and economic losses following a specific earthquake. These results can be improved by using enhanced inventory, geotechnical, and observed ground motion data.

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General Description of the Region

HAZUS is a regional earthquake loss estimation model that was developed by the Federal Emergency Management Agency and the National Institute of Building Sciences. The primary purpose of HAZUS is to provide a methodology and software application to develop earthquake losses at a regional scale. These loss estimates would be used primarily by local, state and regional officials to plan and stimulate efforts to reduce risks from earthquakes and to prepare for emergency response and recovery.

The earthquake loss estimates provided in this report was based on a region that includes 120 county(ies) from the following state(s):

Kentucky

Note:

Appendix A contains a complete listing of the counties contained in the region.

The geographical size of the region is 40,378.40 square miles and contains 994 census tracts. There are over 1,590 thousand households in the region and has a total population of 4,041,769 people (2000 Census Bureau data). The distribution of population by State and County is provided in Appendix B.

There are an estimated 1,789 thousand buildings in the region with a total building replacement value (excluding contents) of 288,723 (millions of dollars). Approximately 92.00 % of the buildings (and 0.00% of the building value) are associated with residential housing.

The replacement value of the transportation and utility lifeline systems is estimated to be 89,652 and 35,155 (millions of dollars) , respectively.

Building and Lifeline Inventory

Building Inventory

HAZUS estimates that there are 1,789 thousand buildings in the region which have an aggregate total replacement value of 288,723 (millions of dollars). Appendix B provides a general distribution of the building value by State and County.

In terms of building construction types found in the region, wood frame construction makes up 69% of the building inventory. The remaining percentage is distributed between the other general building types.

Critical Facility Inventory

HAZUS breaks critical facilities into two (2) groups: essential facilities and high potential loss (HPL) facilities. Essential facilities include hospitals, medical clinics, schools, fire stations, police stations and emergency operations facilities. High potential loss facilities include dams, levees, military installations, nuclear power plants and hazardous material sites.

For essential facilities, there are 121 hospitals in the region with a total bed capacity of 16,701 beds. There are 1,799 schools, 693 fire stations, 381 police stations and 9 emergency operation facilities. With respect to HPL facilities, there are 1,134 dams identified within the region. Of these, 300 of the dams are classified as 'high hazard'. The inventory also includes 2,060 hazardous material sites, 0 military installations and 0 nuclear power plants.

Transportation and Utility Lifeline Inventory

Within HAZUS, the lifeline inventory is divided between transportation and utility lifeline systems. There are seven (7) transportation systems that include highways, railways, light rail, bus, ports, ferry and airports. There are six (6) utility systems that include potable water, wastewater, natural gas, crude & refined oil, electric power and communications. The lifeline inventory data are provided in Tables 1 and 2.

The total value of the lifeline inventory is over 124,807.00 (millions of dollars). This inventory includes over 13,912 kilometers of highways, 6,443 bridges, 330,916 kilometers of pipes.

Table 1: Transportation System Lifeline Inventory

System	Component	# locations/ # Segments	Replacement value (millions of dollars)
Highway	Bridges	6,443	6,216.70
	Segments	2,970	75,062.60
	Tunnels	4	18.50
	Subtotal		81,297.90
Railways	Bridges	143	18.20
	Facilities	39	103.90
	Segments	2,448	4,883.10
	Tunnels	1	0.10
	Subtotal		5,005.20
Light Rail	Bridges	0	0.00
	Facilities	0	0.00
	Segments	0	0.00
	Tunnels	0	0.00
	Subtotal		0.00
Bus	Facilities	21	22.40
	Subtotal		22.40
Ferry	Facilities	17	22.60
	Subtotal		22.60
Port	Facilities	293	585.10
	Subtotal		585.10
Airport	Facilities	45	479.30
	Runways	59	2,239.90
	Subtotal		2,719.20
Total			89,652.50

Table 2: Utility System Lifeline Inventory

System	Component	# Locations / Segments	Replacement value (millions of dollars)
Potable Water	Distribution Lines	NA	3,309.20
	Facilities	179	5,841.50
	Pipelines	0	0.00
	Subtotal		9,150.70
Waste Water	Distribution Lines	NA	1,985.50
	Facilities	335	21,864.80
	Pipelines	0	0.00
	Subtotal		23,850.30
Natural Gas	Distribution Lines	NA	1,323.70
	Facilities	75	80.10
	Pipelines	0	0.00
	Subtotal		1,403.80
Oil Systems	Facilities	20	2.00
	Pipelines	0	0.00
	Subtotal		2.00
Electrical Power	Facilities	68	7,330.40
	Subtotal		7,330.40
Communication	Facilities	374	36.70
	Subtotal		36.70
		Total	41,773.70

Earthquake Scenario

HAZUS uses the following set of information to define the earthquake parameters used for the earthquake loss estimate provided in this report.

Scenario Name	Level5
Type of Earthquake	Probabilistic
Fault Name	NA
Historical Epicenter ID #	NA
Probabilistic Return Period	100.00
Longitude of Epicenter	NA
Latitude of Epicenter	NA
Earthquake Magnitude	5.00
Depth (Km)	NA
Rupture Length (Km)	NA
Rupture Orientation (degrees)	NA
Attenuation Function	NA

Building Damage

Building Damage

HAZUS estimates that about 2,928 buildings will be at least moderately damaged. This is over 0.00 % of the total number of buildings in the region. There are an estimated 14 buildings that will be damaged beyond repair. The definition of the 'damage states' is provided in Volume 1: Chapter 5 of the HAZUS technical manual. Table 3 below summarizes the expected damage by general occupancy for the buildings in the region. Table 4 summarizes the expected damage by general building type.

Table 3: Expected Building Damage by Occupancy

	None		Slight		Moderate		Extensive		Complete	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Agriculture	9,837	0.55	113	1.15	42	1.54	6	2.71	0	1.90
Commercial	83,710	4.71	684	6.96	226	8.34	30	14.36	2	12.04
Education	2,787	0.16	22	0.22	8	0.28	1	0.48	0	0.61
Government	3,364	0.19	25	0.25	8	0.30	1	0.48	0	0.56
Industrial	25,052	1.41	192	1.95	65	2.40	8	4.05	0	2.67
Other Residential	451,911	25.44	5,083	51.72	1,540	56.91	65	31.49	3	23.74
Religion	9,324	0.52	83	0.85	30	1.11	4	1.97	0	2.13
Single Family	1,190,307	67.01	3,626	36.89	788	29.13	92	44.45	8	56.35
Total	1,776,294		9,829		2,706		208		15	

Table 4: Expected Building Damage by Building Type (All Design Levels)

	None		Slight		Moderate		Extensive		Complete	
	Count	(%)	Count	(%)	Count	(%)	Count	(%)	Count	(%)
Wood	1,240,535	69.84	2427	24.69	200	7.38	6	2.77	0	0.00
Steel	41,045	2.31	295	3.01	97	3.60	11	5.20	0	0.00
Concrete	10,599	0.60	68	0.69	15	0.56	1	0.46	0	0.00
Precast	10,726	0.60	89	0.91	51	1.89	8	4.01	0	0.24
RM	6,448	0.36	41	0.42	19	0.71	2	1.05	0	0.00
URM	228,416	12.86	2898	29.48	1,086	40.14	153	73.83	15	99.76
MH	238,525	13.43	4010	40.80	1,237	45.72	26	12.69	0	0.00
Total	1,776,294		9,829		2,706		208		15	

*Note:

RM Reinforced Masonry
URM Unreinforced Masonry
MH Manufactured Housing

Essential Facility Damage

Before the earthquake, the region had 16,701 hospital beds available for use. On the day of the earthquake, the model estimates that only 16,203 hospital beds (97.00%) are available for use by patients already in the hospital and those injured by the earthquake. After one week, 99.00% of the beds will be back in service. By 30 days, 100.00% will be operational.

Table 5: Expected Damage to Essential Facilities

Classification	Total	# Facilities		
		At Least Moderate Damage > 50%	Complete Damage > 50%	With Functionality > 50% on day 1
Hospitals	121	0	0	121
Schools	1,799	0	0	1,799
EOCs	9	0	0	9
PoliceStations	381	0	0	381
FireStations	693	0	0	693

Transportation and Utility Lifeline Damage

Table 6 provides damage estimates for the transportation system.

Table 6: Expected Damage to the Transportation Systems

System	Component	Locations/ Segments	Number of Locations			
			With at Least Mod. Damage	With Complete Damage	With Functionality > 50 %	
					After Day 1	After Day 7
Highway	Segments	2,970	0	0	2,970	2,970
	Bridges	6,443	0	0	6,443	6,443
	Tunnels	4	0	0	4	4
Railways	Segments	2,448	0	0	2,448	2,448
	Bridges	143	0	0	143	143
	Tunnels	1	0	0	1	1
	Facilities	39	0	0	39	39
Light Rail	Segments	0	0	0	0	0
	Bridges	0	0	0	0	0
	Tunnels	0	0	0	0	0
	Facilities	0	0	0	0	0
Bus	Facilities	21	0	0	21	21
Ferry	Facilities	17	17	17	0	0
Port	Facilities	293	0	0	293	293
Airport	Facilities	45	0	0	45	45
	Runways	59	0	0	59	59

Note: Roadway segments, railroad tracks and light rail tracks are assumed to be damaged by ground failure only. If ground failure maps are not provided, damage estimates to these components will not be computed.

Tables 7-9 provide information on the damage to the utility lifeline systems. Table 7 provides damage to the utility system facilities. Table 8 provides estimates on the number of leaks and breaks by the pipelines of the utility systems. For electric power and potable water, HAZUS performs a simplified system performance analysis. Table 9 provides a summary of the system performance information.

Table 7 : Expected Utility System Facility Damage

System	# of Locations				
	Total #	With at Least Moderate Damage	With Complete Damage	with Functionality > 50 %	
				After Day 1	After Day 7
Potable Water	179	0	0	179	179
Waste Water	335	0	0	335	335
Natural Gas	75	0	0	75	75
Oil Systems	20	0	0	20	20
Electrical Power	68	0	0	68	68
Communication	374	0	0	374	374

Table 8 : Expected Utility System Pipeline Damage (Site Specific)

System	Total Pipelines Length (kms)	Number of Leaks	Number of Breaks
Potable Water	165,459	121	30
Waste Water	99,275	95	24
Natural Gas	66,183	102	26
Oil	0	0	0

Table 9: Expected Potable Water and Electric Power System Performance

	Total # of Households	Number of Households without Service				
		At Day 1	At Day 3	At Day 7	At Day 30	At Day 90
Potable Water	1,590,647	0	0	0	0	0
Electric Power		0	0	0	0	0

Induced Earthquake Damage

Fire Following Earthquake

Fires often occur after an earthquake. Because of the number of fires and the lack of water to fight the fires, they can often burn out of control. HAZUS uses a Monte Carlo simulation model to estimate the number of ignitions and the amount of burnt area. For this scenario, the model estimates that there will be 3 ignitions that will burn about 0.06 sq. mi 0.00 % of the region's total area.) The model also estimates that the fires will displace about 23 people and burn about 2 (millions of dollars) of building value.

Debris Generation

HAZUS estimates the amount of debris that will be generated by the earthquake. The model breaks the debris into two general categories: a) Brick/Wood and b) Reinforced Concrete/Steel. This distinction is made because of the different types of material handling equipment required to handle the debris.

The model estimates that a total of 0.00 million tons of debris will be generated. Of the total amount, Brick/Wood comprises 0.00% of the total, with the remainder being Reinforced Concrete/Steel. If the debris tonnage is converted to an estimated number of truckloads, it will require 0 truckloads (@25 tons/truck) to remove the debris generated by the earthquake.

Social Impact

Shelter Requirement

HAZUS estimates the number of households that are expected to be displaced from their homes due to the earthquake and the number of displaced people that will require accommodations in temporary public shelters. The model estimates 0 households to be displaced due to the earthquake. Of these, 0 people (out of a total population of 4,041,769) will seek temporary shelter in public shelters.

Casualties

HAZUS estimates the number of people that will be injured and killed by the earthquake. The casualties are broken down into four (4) severity levels that describe the extent of the injuries. The levels are described as follows;

- Severity Level 1: Injuries will require medical attention but hospitalization is not needed.
- Severity Level 2: Injuries will require hospitalization but are not considered life-threatening
- Severity Level 3: Injuries will require hospitalization and can become life threatening if not promptly treated.
- Severity Level 4: Victims are killed by the earthquake.

The casualty estimates are provided for three (3) times of day: 2:00 AM, 2:00 PM and 5:00 PM. These times represent the periods of the day that different sectors of the community are at their peak occupancy loads. The 2:00 AM estimate considers that the residential occupancy load is maximum, the 2:00 PM estimate considers that the educational, commercial and industrial sector loads are maximum and 5:00 PM represents peak commute time.

Table 10 provides a summary of the casualties estimated for this earthquake

Table 10: Casualty Estimates

		Level 1	Level 2	Level 3	Level 4
	Total				

Economic Loss

The total economic loss estimated for the earthquake is 133.69 (millions of dollars), which includes building and lifeline related losses based on the region's available inventory. The following three sections provide more detailed information about these losses.

Building-Related Losses

The building losses are broken into two categories: direct building losses and business interruption losses. The direct building losses are the estimated costs to repair or replace the damage caused to the building and its contents. The business interruption losses are the losses associated with inability to operate a business because of the damage sustained during the earthquake. Business interruption losses also include the temporary living expenses for those people displaced from their homes because of the earthquake.

The total building-related losses were 91.45 (millions of dollars); 37 % of the estimated losses were related to the business interruption of the region. By far, the largest loss was sustained by the residential occupancies which made up over 47 % of the total loss. Table 11 below provides a summary of the losses associated with the building damage.

Table 11: Building-Related Economic Loss Estimates
(Millions of dollars)

Category	Area	Single Family	Other Residential	Commercial	Industrial	Others	Total
Income Losses							
	Wage	0.00	0.48	6.26	0.28	0.74	7.77
	Capital-Related	0.00	0.21	4.93	0.18	0.16	5.48
	Rental	1.12	1.70	3.57	0.14	0.22	6.75
	Relocation	4.04	2.34	5.19	0.67	1.94	14.18
	Subtotal	5.16	4.73	19.96	1.27	3.06	34.18
Capital Stock Losses							
	Structural	5.88	3.81	5.40	1.47	2.15	18.72
	Non_Structural	13.55	6.82	6.70	1.66	2.41	31.13
	Content	2.46	0.70	2.25	0.91	0.77	7.10
	Inventory	0.00	0.00	0.08	0.21	0.02	0.31
	Subtotal	21.89	11.33	14.43	4.25	5.36	57.27
	Total	27.05	16.07	34.39	5.52	8.42	91.45

Transportation and Utility Lifeline Losses

For the transportation and utility lifeline systems, HAZUS computes the direct repair cost for each component only. There are no losses computed by HAZUS for business interruption due to lifeline outages. Tables 12 & 13 provide a detailed breakdown in the expected lifeline losses.

HAZUS estimates the long-term economic impacts to the region for 15 years after the earthquake. The model quantifies this information in terms of income and employment changes within the region. Table 14 presents the results of the region for the given earthquake.

Table 12: Transportation System Economic Losses
(Millions of dollars)

System	Component	Inventory Value	Economic Loss	Loss Ratio (%)
Highway	Segments	75,062.63	\$0.00	0.00
	Bridges	6,216.70	\$0.01	0.00
	Tunnels	18.54	\$0.00	0.00
	Subtotal	81297.90	0.00	
Railways	Segments	4,883.07	\$0.00	0.00
	Bridges	18.21	\$0.00	0.00
	Tunnels	0.10	\$0.00	0.00
	Facilities	103.86	\$0.29	0.28
	Subtotal	5005.20	0.30	
Light Rail	Segments	0.00	\$0.00	0.00
	Bridges	0.00	\$0.00	0.00
	Tunnels	0.00	\$0.00	0.00
	Facilities	0.00	\$0.00	0.00
	Subtotal	0.00	0.00	
Bus	Facilities	22.43	\$0.06	0.28
	Subtotal	22.40	0.10	
Ferry	Facilities	22.63	\$22.63	100.00
	Subtotal	22.60	22.60	
Port	Facilities	585.12	\$4.75	0.81
	Subtotal	585.10	4.80	
Airport	Facilities	479.30	\$2.00	0.42
	Runways	2,239.88	\$0.00	0.00
	Subtotal	2719.20	2.00	
	Total	89652.50	29.70	

Table 13: Utility System Economic Losses
(Millions of dollars)

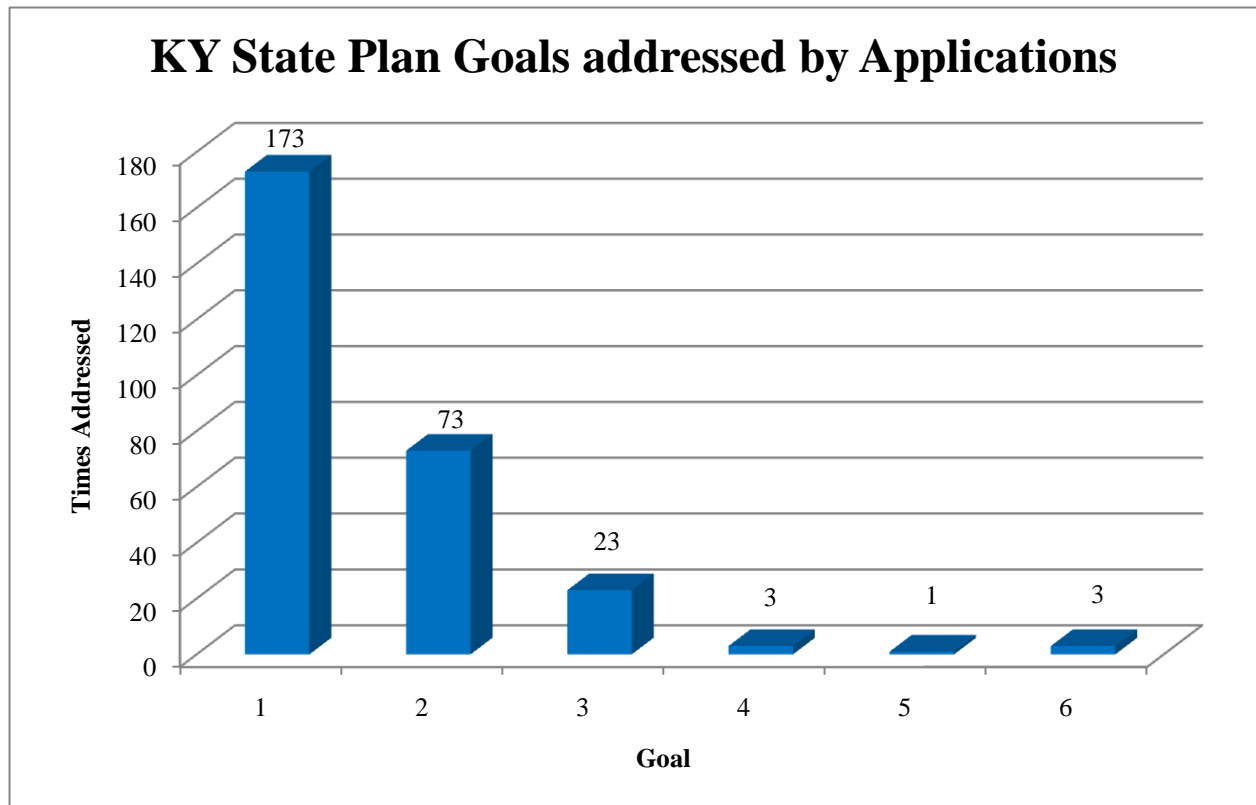
System	Component	Inventory Value	Economic Loss	Loss Ratio (%)
Potable Water	Pipelines	0.00	\$0.00	0.00
	Facilities	5,841.50	\$1.20	0.02
	Distribution Lines	3,309.20	\$0.54	0.02
	Subtotal	9,150.66	\$1.74	
Waste Water	Pipelines	0.00	\$0.00	0.00
	Facilities	21,864.80	\$7.84	0.04
	Distribution Lines	1,985.50	\$0.43	0.02
	Subtotal	23,850.28	\$8.26	
Natural Gas	Pipelines	0.00	\$0.00	0.00
	Facilities	80.10	\$0.01	0.01
	Distribution Lines	1,323.70	\$0.46	0.03
	Subtotal	1,403.78	\$0.47	
Oil Systems	Pipelines	0.00	\$0.00	0.00
	Facilities	2.00	\$0.00	0.01
	Subtotal	1.96	\$0.00	
Electrical Power	Facilities	7,330.40	\$2.02	0.03
	Subtotal	7,330.40	\$2.02	
Communication	Facilities	36.70	\$0.01	0.03
	Subtotal	36.65	\$0.01	
	Total	41,773.73	\$12.51	

Table 14. Indirect Economic Impact with outside aid
(Employment as # of people and Income in millions of \$)

LOSS		Total	%
First Year			
	Employment Impact	4,308	0.43
	Income Impact	11	0.03
Second Year			
	Employment Impact	1,416	0.14
	Income Impact	4	0.01
Third Year			
	Employment Impact	30	0.00
	Income Impact	(1)	0.00
Fourth Year			
	Employment Impact	0	0.00
	Income Impact	(2)	-0.01
Fifth Year			
	Employment Impact	0	0.00
	Income Impact	(2)	-0.01
Years 6 to 15			
	Employment Impact	0	0.00
	Income Impact	(2)	-0.01

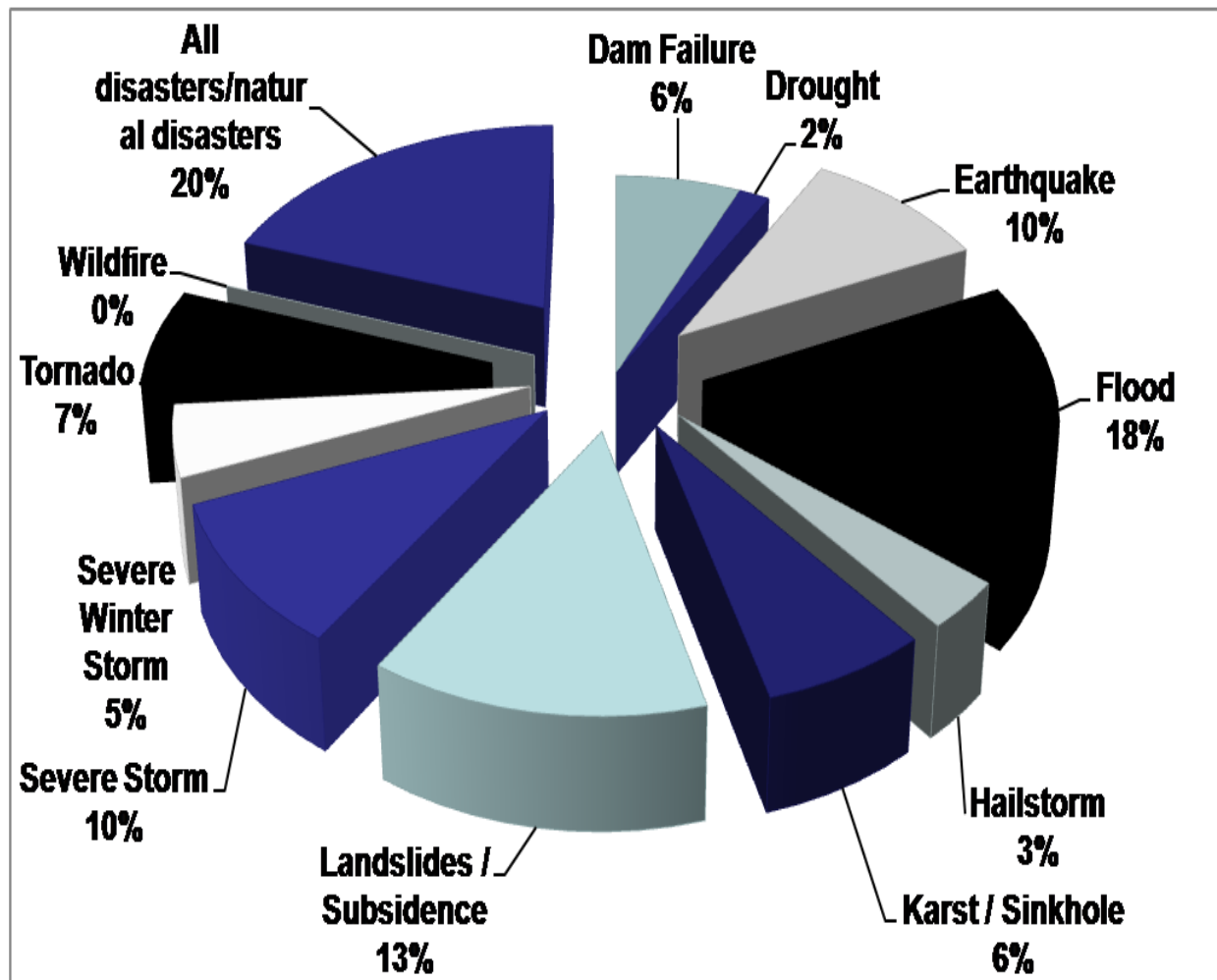
Appendix 43: Goal Matrix

222 Project Applications were reviewed for this matrix.

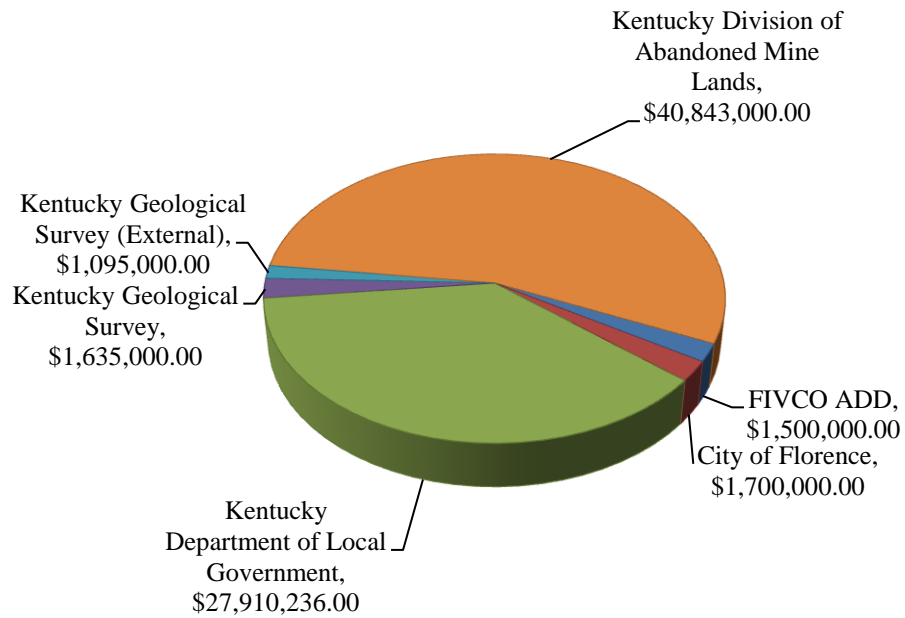


Appendix 44: Action Reports Matrix

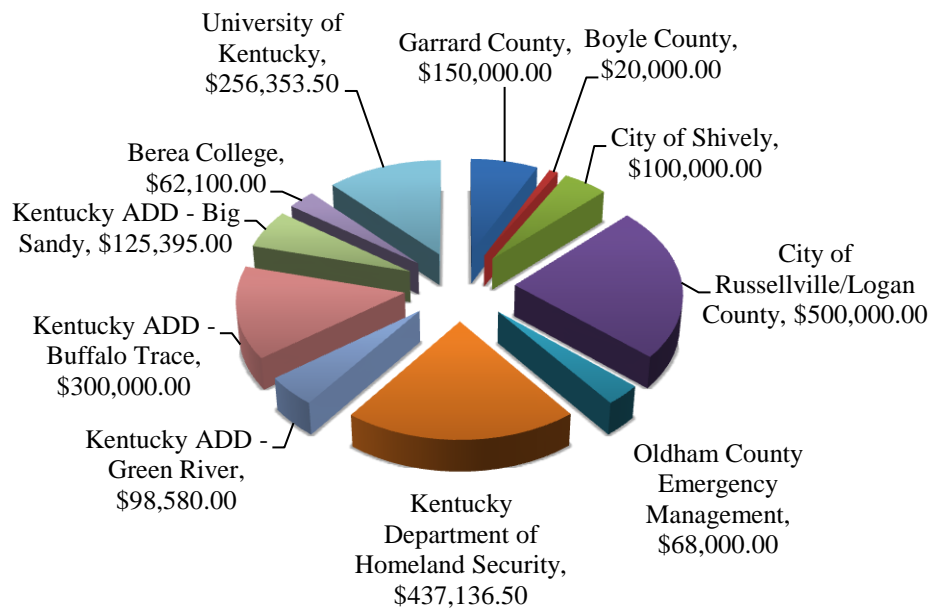
The following graphic depicts hazards addressed, money spent by each agency, and the counties affected by an Action Report.



Contributors Over \$1 Million

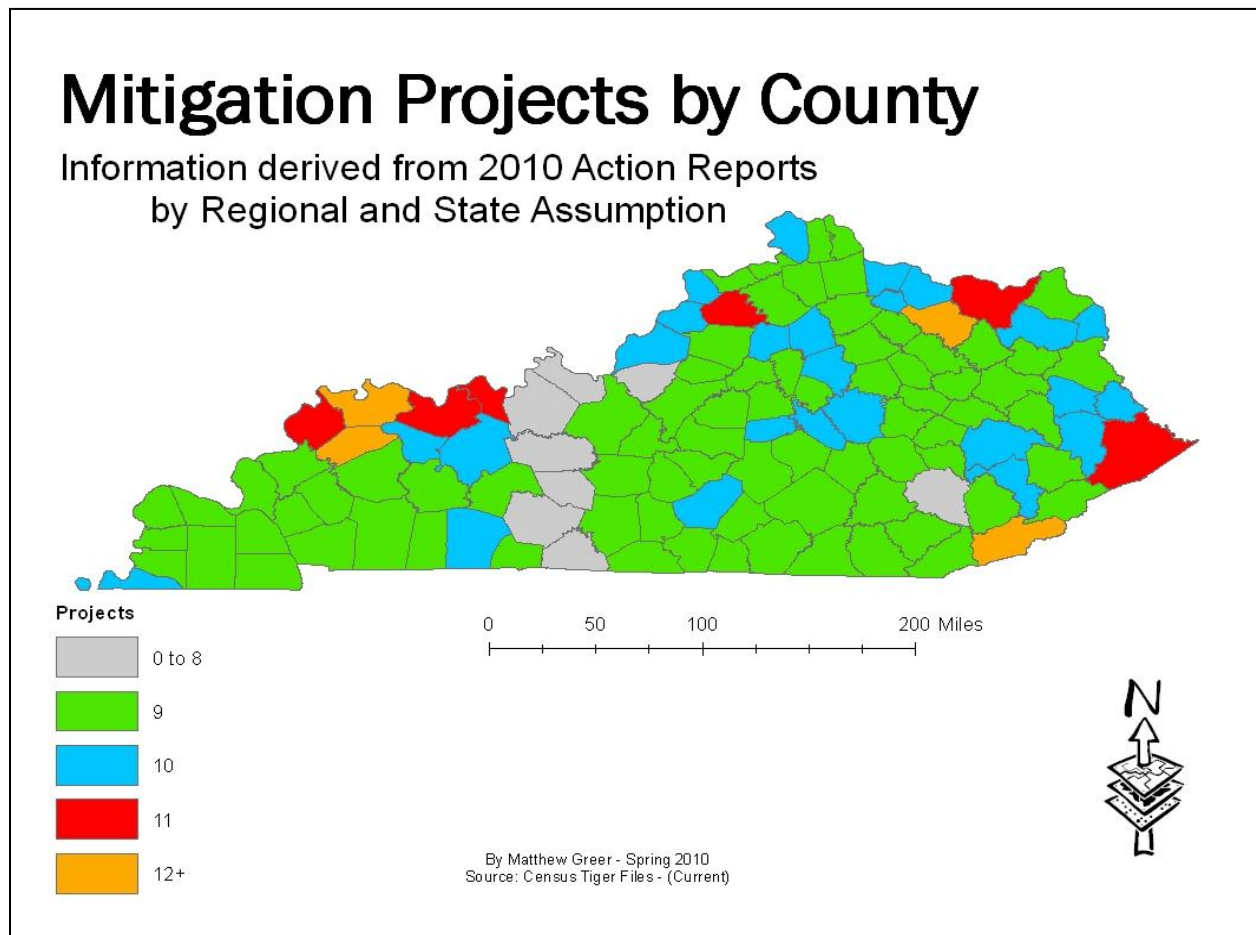


Contributors Under \$1 Million



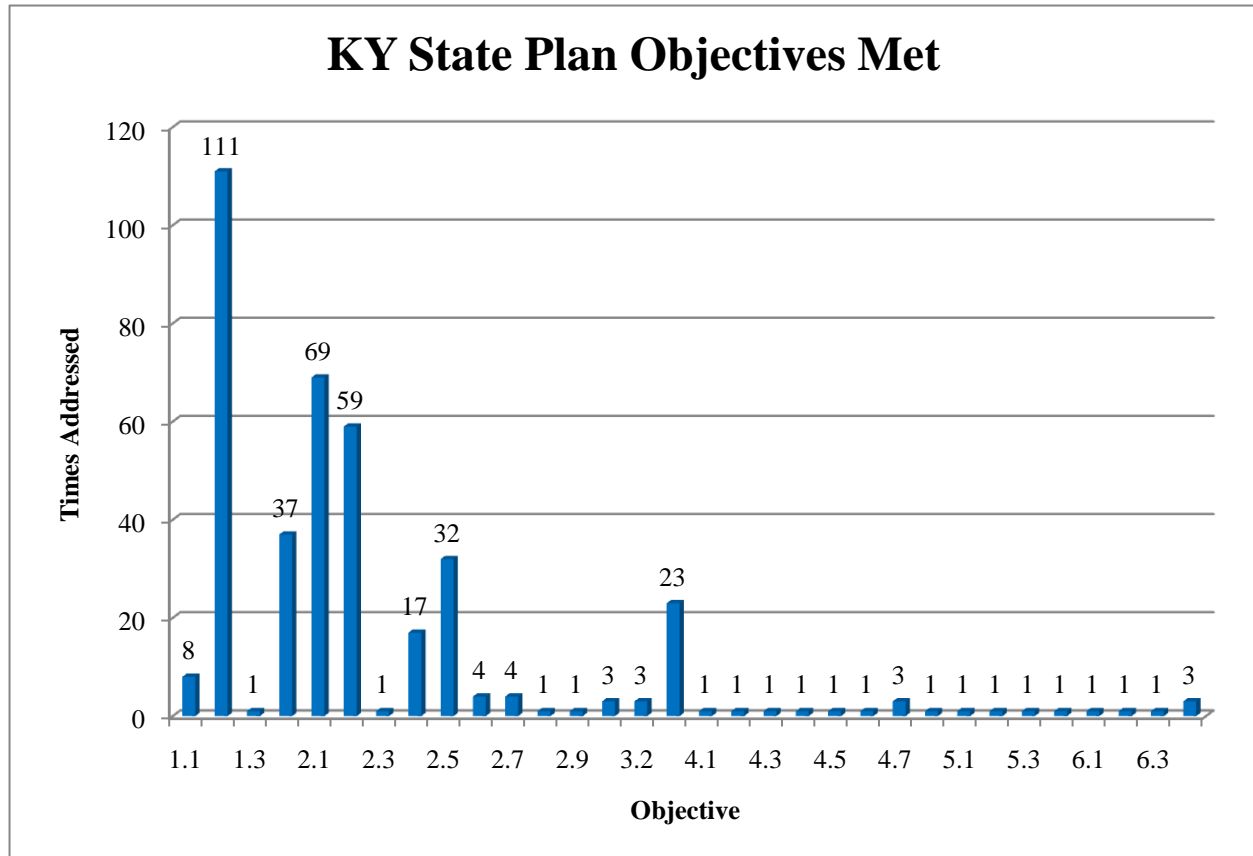
The above charts reflect the total mitigation dollars spent by each agency.

This map depicts which counties have been affected by the Mitigation Action Report mitigation projects.



Appendix 45: Objective Matrix

222 Project Applications were reviewed for this matrix.



Appendix 46: Kentucky Revised Statutes

Emergency Management: Kentucky Revised Statutes (KRS)

Chapter 39 was omitted as it no longer contains any legislation directly relating to hazard mitigation. Chapter 39 of the KRS was broken down into several different parts and has thus been regrouped accordingly on this reference list.

39A.366 – Good Samaritan Act of 2007 (Short title for KRS 39A.350 to 39A.366) was added due to its general relation to all hazard situations, especially extreme cases.

Chapter 244 was omitted because much of the legislation has been repealed or renumbered, making the reference no longer correct.

Title III – Executive Branch

- Chapter 16 – State Police
 - 16.060 – Powers and duties of commissioner and officers
 - 16.065 – Additional duties of department
 - 16.130 – Cooperation with other agencies, local officers – Other state and federal government

Title V – Military Affairs

- Chapter 36 – Department of Military Affairs
 - 36.010 – Department of Military Affairs attached to Office of Governor –Functions – Organization
 - 36.235 – Unit of Civil Air Patrol – Functions of unit
 - 36.255 – Kentucky Community Crisis Response Board – Members – Meetings
- Chapter 37 – Active Militia
 - 37.240 – Active service – How and when ordered into – Direction – Powers
- Chapter 38 – National Guard
 - 38.030 – Ordering troops into state active duty – Non-tactical direction by local civil officers
- Chapter 39A – Statewide Emergency Management Programs
 - 39A.010 – Legislative intent – Necessity
 - 39A.015 – Definitions and chapter provisions applicable to KRS Chapters 39B to 39F
 - 39A.020 – Definitions for KRS Chapters 39A to 39F
 - 39A.030 – Rationale and purpose of program – Division of Emergency Management
 - 39A.040 – Administrative bodies attached to division
 - 39A.050 – Responsibility of division for coordinating disaster and emergency services – Powers, authorities, and duties

- 39A.060 – Nature and scope of comprehensive program – Director under direction of adjutant general
- 39A.070 – Powers, responsibilities, and duties of director
- 39A.080 – Seals and markings of Division of Emergency Management to be affixed on vehicles used and operated by division
- 39A.090 – Executive orders
- 39A.100 – Emergency powers of Governor and local chief executive officers
- 39A.110 – Compensation for property taken for temporary use – Notice to owner of property where title taken
- 39A.120 – Procedure when owner refuses to accept compensation fixed by Governor
- 39A.130 – Appeal from award of Board of Claims
- 39A.140 – Procedure for payment of compensation
- 39A.150 – Traffic control plans – Executive orders
- 39A.160 – Witnesses – Production of records and documents
- 39A.170 – Lease or loan of real or personal property of state government – Disaster and emergency response activities of state employees
- 39A.180 – Orders and administrative regulations of political subdivisions – Enforcement
- 39A.190 – Power of arrest for violation of order or administrative regulation
- 39A.200 – Authority to receive services, equipment, supplies, materials, or funds from federal government
- 39A.210 – Qualifications and oath of persons connected with disaster and emergency response organizations
- 39A.220 – Agency emergency operations procedures
- 39A.230 – Procedures for one multi-risk, multi-agency, unified incident command or management system
- 39A.240 – State Emergency Operations Center – Agency representatives
- 39A.250 – Superseded by KRS 39A. 280, 1998
- 39A.260 – Mutual aid agreements with other states – Workers' compensation
- 39A.270 – Use of publicly owned resources at impending, happening, or response phase of disaster or emergency
- 39A.280 – Nature of disaster and emergency response functions provided by state or local management agency – Immunity, exceptions
- 39A.283 – Short title for KRS 39A.050, 39A.070, 39A.285, and 39A.287
- 39A.285 – Legislative findings
- 39A.295 – Taking of property or rights guaranteed by KRS 287.102 or 237.104 not authorized -- Rights of relocated persons unaffected
- 39A.300 – Disaster relief funding program
- 39A.366 – Good Samaritan Act of 2007 (Short title for KRS 39A.350 to 39A.366)
- 39A.950 – Emergency Management Assistance Compact
- 39A.990 – Penalty
- Chapter 39B – Local Emergency Management Programs
 - 39B.010 – Local emergency management to be maintained – Unified local emergency management agency
 - 39B.020 – Local emergency management director – Joint appointment of a single local emergency management director – Qualifications
 - 39B.030 – Powers, authorities, rights, and duties of local director – Development of organizational structure

- 39B.040 – Mutual aid arrangements with special districts and public and private agencies
- 39B.050 – Local disaster and emergency services organization – Membership – Responsibility
- 39B.060 – Emergency operations plan
- 39B.070 – Execution of emergency powers – Emergency operations centers – Waiver of procedures and formalities
- 39B.080 – Powers, duties, rights, privileges, and immunities of employees rendering outside aid
- 39B.090 – Liability for loss or damage to equipment used – Reimbursement of compensation and expenses of employees
- 39B.100 – Contracts permitted
- 39B.110 – Taking of property or rights guaranteed by KRS 287.102 or 237.104 not authorized -- Rights of relocated persons unaffected
- 39B.990 – Penalty
- Chapter 39C – State Aid to Local Emergency Management Programs
 - 39C.010 – Supplementary state funds
 - 39C.020 – Allocation of state funds
 - 39C.030 – Purpose of supplementary state fund
 - 39C.040 – Director's responsibility – Advisory committee
 - 39C.050 – Criteria for funding local emergency management agencies
 - 39C.060 – Request for financial aid – Review and evaluation criteria
 - 39C.070 – Reimbursement – Claims and equipment purchase
 - 39C.080 – Performance evaluations – Records and reports – Review of program progress and compliance – Correction of deficiencies – Appeal process
 - 39C.090 – Requests for waiver of requirements
 - 39C.100 – Administration of supplementary state funding program – Administrative regulations
 - 39C.110 – Workers' compensation coverage – Limitations
 - 39C.990 – Penalty
- Chapter 39D – Continuity of Government
 - 39D.010 – Temporary seat of state government – Acts valid and binding
 - 39D.020 – Designation of alternate or substitute places for local government – Acts valid and binding
 - 39D.030 – Ordinances and resolutions for continuity of government
 - 39D.040 – Emergency interim successors – Order of successions – Vacancies – Applicability of statute to all special districts and political subdivisions
 - 39D.050 – Preservation of essential state public records – Duties of Archives and Records Commission
 - 39D.990 – Penalty
- Chapter 39E – Implementation of Federal Hazardous Materials Programs
 - 39E.010 – Kentucky Emergency Response Commission – Duties
 - 39E.020 – Definitions for chapter
 - 39E.030 – Members – Meetings
 - 39E.040 – Duties – Appointment of committees
 - 39E.050 – Fees – Trust and agency accounts – Administrative regulations
 - 39E.060 – Permissive activities of commission

- 39E.070 – SARA Title III programs account
 - 39E.080 – Administrative support by Division of Emergency Management – Protection of federal funds – Administrative regulations
 - 39E.090 – Local emergency planning districts
 - 39E.100 – Local planning committees
 - 39E.110 – Committee duties
 - 39E.120 – Commission to be advised of receipt of excess quantities of hazardous substances
 - 39E.130 – Naming of facility representatives – Liaison duties
 - 39E.140 – Political entities required to participate in local planning process
 - 39E.150 – Plan development, approval, and review
 - 39E.160 – Response to be consistent with plan
 - 39E.170 – State agency response
 - 39E.180 – Claims to be filed with Board of Claims
 - 39E.190 – Report of release of substance
 - 39E.200 – Establishment of warning and notification standards
 - 39E.210 – Report of inventories and location of extremely hazardous substances
 - 39E.220 – Additional information may be required
 - 39E.230 – Reports available to public – Protection of trade secrets
 - 39E.240 – Chapter supplemental to other laws
 - 39E.990 – Penalties
- Chapter 39F – Local Rescue Programs – State and Local Search and Rescue Programs
 - 39F.010 – Definitions for chapter
 - 39F.020 – Rescue squads – Formation – Authorization to operate within a jurisdiction – Functions
 - 39F.030 – Regional or statewide specialized rescue services – Alternative affiliations agreement and alternative vehicle and equipment requirements
 - 39F.040 – Specialized squad using search dogs – Requirements – Organization of general rescue squad
 - 39F.050 – Organization of general rescue squad
 - 39F.060 – Activities permitted for general and specialized rescue squads
 - 39F.070 – Specialized rescue squad – Activities permitted
 - 39F.080 – State coordinator for search and rescue – Appointment and duties
 - 39F.090 – Coordinating and planning responsibility
 - 39F.100 – Rescue Aid Program – Purpose
 - 39F.110 – Rescue aid fund – Duties of director of division – Local director's responsibilities
 - 39F.120 – Requirements for rescue grant funding – Written standard operating procedures – Bylaws – Rescue vehicle – Membership – Training – Affiliation – Service fee prohibited
 - 39F.130 – Rescue and project funding – Application and review process
 - 39F.140 – Purchase, disposal, and inspection of equipment – Audit of funds
 - 39F.150 – Reports of lost, stolen, or damaged equipment or loss of capability to operate – Quarterly incident and training reports
 - 39F.160 – Rescue squad taxing districts
 - 39F.170 – Workers' compensation coverage – Limitations – Enrollment.
 - 39F.180 – Reports of search and rescue missions – Immediate search for lost, missing, or overdue person permitted
 - 39F.190 – Development of comprehensive written search and rescue plan
 - 39F.200 – Local search and rescue coordinator

- 39F.210 – Administrative regulations
- 39F.990 – Penalty
- Chapter 39G – Kentucky Office of Homeland Security
 - 39G.010 – Kentucky Office of Homeland Security executive director -- duties -- delegation of duties -- notification of disaster or emergency
 - 39G.020 – Records and reporting -- education of reporting entities -- notification of available grants.
 - 39G.030 – Reports by office -- contents of reports
 - 39G.040 – Commercial Mobile Radio Service Emergency Telecommunications Board attached to office

Title VI – Financial Administration

- Chapter 48 – Budget
 - 48.150 – Appropriations to address unexpected emergencies and contingencies

Title VII – Public Property and Public Printing

- Chapter 56 – State Lands and Buildings
 - 56.065 – Definitions for KRS 56.070 to 56.180
 - 56.070 – Office of Insurance determines state property to be insured through state first and tornado insurance fund -- exceptions
 - 56.080 – Appraisal and valuation of state property
 - 56.090 – Rate of premium, how fixed and certified
 - 56.095 – KRS Chapter 45A applicable to fire and tornado insurance contracts
 - 56.100 – State fire and tornado insurance fund
 - 56.110 – Damage to state property -- how appraised
 - 56.120 – Payment for damages
 - 56.130 – Insufficient amount in fund
 - 56.140 – Investment of insurance fund
 - 56.150 – Expenses of administration
 - 56.160 – Reinsurance
 - 56.170 – Inspection for fire hazards -- adjustment of premiums
 - 56.180 – Fund exceeding five million dollars -- use of fund -- disposition of excess
 - 56.185 – state agencies to comply with National Flood Insurance Program requirements for new construction

Title IX – Counties, Cities, and Other Local Units

- Chapter 75 – Fire Protection Districts
 - 75.470 – KRS 75.400 to 75.460 not to be construed to conflict with authority of other named agencies
- Chapter 99 – Urban Renewal and Redevelopment
 - 99.530 – Urban renewal projects
 - 99.540 – Urban renewal plan
 - 99.550 – Power and authority of agency with respect to urban renewal
 - 99.565 – Acquisition of property in order to receive federal funds
- Chapter 100 – Planning and Zoning
 - 100.111 – Definitions for chapter

- 100.113 – Types of planning units permitted
- 100.117 – Independent planning units
- 100.121 – Joint planning units
- 100.123 – Regional planning units
- 100.127 – Written agreements for joint or regional planning units –Filing fees – Exception when planning unit includes county with consolidated local government
- 100.131 – Area of jurisdiction
- 100.183 – Comprehensive plan required
- 100.187 – Contents of comprehensive plan
- 100.191 – Research requirements for comprehensive plan
- 100.193 – Statement of goals and objectives
- 100.197 – Adoption of plan elements -- periodic amendment or readoption
- 100.201 – Interim and permanent land use regulations authorized
- 100.202 – Land use regulation permitting placement of all property with planning unit within a single zone
- 100.203 – Content of zoning regulations
- 100.204 –Effect of KRS 100.203
- 100.205 – Identical zoning regulations among cities and counties comprising joint planning unit not required
- 100.207 – Text and map of zoning regulations
- 100.208 – Transferable development rights
- 100.209 – Amendment of comprehensive plan prior or annexation permitted
- 100.211 – Procedure for amending zoning map and text of regulation
- 100.2111 – Alternative regulation for zoning map amendment
- 100.212 – Notice of hearing on proposed map amendment
- 100.213 – Findings necessary for proposed map amendment
- 100.214 – Hearing on proposed map amendment in county containing city of the first class or consolidated local government

Title XII – Conservation and State Development

- Chapter 147A – Program Development
 - 147A.029 – Disbursement of funds for Local Match Participation Program
 - 147A.050 – Area development districts
 - 147A.060 – Board of directors for each district
 - 147A.070 – Appointment of executive director
 - 147A.080 – Powers of board of directors
 - 147A.090 – Duties of board of directors
 - 147A.100 – Allocation of funds
 - 147A.110 – District projects and property exempt from taxation
 - 147A.120 – Limitation on districts' functions, powers, and duties
 - 147A.125 – Regional planning council
 - 147A.140 – District preparation of solid waste management plan
- Chapter 151 – Geology and Water Sources
 - 151.600 – Public information program for flood plain management and flood hazard mitigation programs

Title XIII – Education

- Chapter 158 – Conduct of Schools – Special Programs

- 158.070 – School term – Professional development – Holidays and days closed – Continuing education for certain students – Breakfast program
- 158.163 – Earthquake and tornado emergency procedure system
- Chapter 160 – School Districts
 - 160.599 – Emergency loans to public common school districts

Title XV – Roads, Waterways and Aviation

- Chapter 174 – Transportation Cabinet
 - 174.135 – Division of Incident Management

Title XVII – Economic Security and Public Welfare

- Chapter 198B – Housing, Buildings, and Construction – Building Code
 - 198B.050 – Uniform State Building Code
 - 198B.060 – Local enforcement of uniform state building code
 - 198B.070 – Appeals
 - 198B.080 – Amendments to the uniform state building code
 - 198B.090 – Certification of professional classifications
 - 198B.095 – Authorization for building inspectors training program
 - 198B.100 – Manufactured or mobile home exemption
 - 198B.110 – Effective dates for uniform state building code
 - 198B.120 – Injunctions to enforce building code compliance
 - 198B.130 – Private action for damages
 - 198B.135 – Presumption regarding defectiveness of building design, construction, material, or supplies...
 - 198B.140 – Hindrance of building inspectors prohibited
 - 198B.290 – Issuance of rebuilding permits for certain types of property contiguous to river in counties with city of first class or consolidated local government and cities within such a county

Title XVIII – Public Health

- Chapter 211 – State Health Programs
 - 211.855 – Cabinet's role as radon control agency for Commonwealth
 - 211.856 – Certification of persons engaged in radon analysis, mitigation, or testing – Fees
 - 211.900 – Definitions for KRS 211.900 to 211.905 and KRS 211.994
 - 211.901 – Statewide program for prevention, screening, diagnosis, and treatment of lead poisoning
 - 211.902 – Reports on persons with excess level of lead in blood
 - 211.903 – Testing for lead poisoning
 - 211.904 – Education programs
 - 211.905 – Inspection of dwelling or dwelling unit of occupant with confirmed elevated lead blood level
- Chapter 224A – Kentucky Infrastructure Authority
 - 224A.314 – Study of water resource potential of underground coal mines and high yield water wells -- funding for study

Title XIX – Public Safety and Morals

- Chapter 227 – Fire Prevention and Protection

Title XXVI – Occupations and Professions

- Chapter 311A – Emergency Medical Services
 - 311A.020 – Powers and duties of board – Executive director and deputy executive director – Persons employed by board

Title XXVIII – Mines and Minerals

- Chapter 350 – Surface Coal Mining
 - 350.570 – Right of cabinet to enter upon land for reclamation purposes – Acquisition and disposal of land by Commonwealth
 - 350.575 – Lien for reclamation
 - 350.580 – Reclamation of surface impacts of underground or surface mining
 - 350.585 – Emergency restoration and reclamation
 - 350.590 – Power of cabinet to administer provisions of Abandoned Mine Lands Program
 - 350.595 – Bond pool fund for Abandoned Mine Land Enhancement Program
 - 350.597 – Special trust fund
- Chapter 352 – Mining Regulations
 - 352.640 – Emergency action plans –Components – Copies – Training – Evacuation and firefighting programs

Appendix 47: Local Capability Assessment Example

Local Capabilities Assessment															
Jurisdiction	Existing Authorities						Programs				Resources				
	Floodplain Management Ordinance	Community Rating System	Zoning Regulations	Subdivision Regulations	Fire Prevention Codes (State)	Stormwater Management Plans	NWS Storm Ready Program	Emergency Operations Plan	Local Hazard Mitigation Plans	Mine Subsidence Fund	Local Economic Development	Regional Development Agency	Local Emergency Management Agency	Local Emergency Planning Committee	
Adair	N	N	Y	Y	Y	Y	Y	Y	Y	N	A	Y	Y	Y	
Allen	Y	N	Y	Y	Y	N	N	Y	Y	N	A	Y	Y	Y	
Anderson	Y	N	Y	Y	Y	N	Y	Y	Y	N	F	Y	Y	Y	
Ballard	Y	N	N	N	Y	N	N	Y	Y	N	F	Y	Y	Y	
Barren	Y	N	Y	Y	Y	N	Y	Y	Y	N	A	Y	Y	Y	
Bath	Y	N	N	Y	N	Y	N	Y	Y	N	F	Y	Y	Y	
Bell	Y	Y	Y	Y	Y	N	N	Y	Y	Y	F	Y	Y	Y	
Boone	Y	N	Y	Y	Y	Y	Y	Y	Y	N	A	Y	Y	Y	
Bourbon	Y	N	Y	Y	Y	N	N	Y	Y	N	A	Y	Y	Y	
Boyd	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	A	Y	Y	Y	
Boyle	Y	N	Y	Y	Y	Y	N	Y	Y	N	F	Y	Y	Y	
Bracken	Y	N	Y	N	Y	N	N	Y	Y	N	A	Y	Y	Y	
Breathitt	Y	N	N	N	Y	N	Y	Y	Y	Y	F	Y	Y	Y	
Breckinridge	Y	N	Y	N	Y	N	N	Y	Y	N	F	Y	Y	Y	
Bullitt	Y	N	Y	Y	Y	Y	Y	Y	Y	N	A	Y	Y	Y	
Butler	Y	Y	Y	Y	Y	N	N	Y	Y	Y	F	Y	Y	Y	
Caldwell	N	N	Y	N	Y	N	N	Y	Y	N	F	Y	Y	Y	
Calloway	Y	N	Y	Y	Y	Y	Y	Y	Y	N	F	Y	Y	Y	
Campbell	Y	N	Y	Y	Y	Y	Y	Y	Y	N	A	Y	Y	N	
Carlisle	Y	N	Y	N	Y	N	Y	Y	Y	N	A	Y	Y	Y	
Carroll	Y	N	Y	Y	Y	N	N	Y	Y	N	F	Y	Y	Y	
Carter	Y	Y	Y	N	Y	Y	Y	Y	Y	Y	A	Y	Y	Y	

RED = Change from 2007 Plan

Casey	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	A	Y	Y	Y	
Christian	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	A	Y	Y	Y	
Clark	N	N	Y	Y	Y	Y	N	Y	Y	N	A	Y	Y	Y	
Clay	Y	N	Y	Y	Y	N	N	Y	Y	Y	A	Y	Y	Y	
Clinton	Y	N	N	N	Y	Y	N	Y	Y	N	A	Y	Y	Y	
Crittenden	Y	N	Y	N	Y	N	N	Y	Y	N	F	Y	Y	Y	
Cumberland	Y	Y	Y	Y	Y	N	N	Y	Y	N	A	Y	Y	Y	
Daviess	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	A	Y	Y	Y	
Edmonson	N	N	N	N	Y	N	Y	Y	Y	Y	N	Y	Y	Y	
Elliott	Y	N	N	N	Y	N	Y	Y	Y	Y	N	Y	Y	Y	
Estill	Y	N	Y	Y	Y	N	Y	Y	Y	N	F	Y	Y	Y	
Fayette	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	A	Y	Y	Y	
Fleming	Y	N	N	N	Y	N	N	Y	Y	N	A	Y	Y	Y	
Floyd	Y	Y	Y	N	Y	N	Y	Y	Y	Y	A	Y	Y	Y	
Franklin	Y	Y	Y	Y	Y	Y	N	Y	Y	N	A	Y	Y	Y	
Fulton	Y	N	Y	Y	Y	Y	N	Y	Y	N	A	Y	Y	Y	
Gallatin	Y	N	Y	Y	Y	N	Y	Y	Y	N	A	Y	Y	Y	
Garrard	Y	N	Y	Y	Y	N	N	Y	Y	N	A	Y	Y	Y	
Grant	Y	N	Y	Y	Y	Y	N	Y	Y	N	A	Y	Y	Y	
Graves	Y	N	Y	Y	Y	Y	N	Y	Y	N	F	Y	Y	Y	
Grayson	Y	Y	Y	Y	Y	N	Y	Y	Y	N	F	Y	Y	Y	
Green	Y	Y	Y	Y	Y	Y	N	Y	Y	N	F	Y	Y	Y	
Greenup	Y	N	Y	Y	Y	Y	N	Y	Y	Y	F	Y	Y	Y	
Hancock	Y	N	Y	Y	Y	N	N	Y	Y	Y	F	Y	Y	Y	
Hardin	Y	Y	Y	Y	Y	Y	N	Y	Y	N	F	Y	Y	Y	
Harlan	Y	N	Y	N	Y	N	Y	Y	Y	Y	A	Y	Y	Y	
Harrison	Y	N	Y	Y	Y	N	N	Y	Y	N	A	Y	Y	Y	
Hart	Y	N	N	Y	Y	N	Y	Y	Y	N	A	Y	Y	Y	
Henderson	Y	N	Y	Y	Y	Y	Y	Y	Y	Y	A	Y	Y	Y	
Henry	Y	N	Y	Y	Y	N	Y	Y	Y	N	F	Y	Y	Y	
Hickman	Y	N	N	N	Y	N	N	Y	Y	N	N	Y	Y	Y	
Hopkins	Y	N	Y	Y	Y	N	Y	Y	Y	Y	F	Y	Y	Y	
Jackson	Y	N	N	N	Y	N	N	Y	Y	Y	A	Y	Y	Y	
Jefferson	Y	Y	Y	Y	Y	Y	N	Y	Y	N	A	Y	Y	Y	
Jessamine	N	Y	Y	Y	Y	Y	N	Y	Y	N	A	Y	Y	Y	
Johnson	Y	Y	Y	N	Y	N	Y	Y	Y	Y	A	Y	Y	Y	
Kenton	Y	N	Y	Y	Y	Y	N	Y	Y	N	A	Y	Y	N	
Knott	Y	N	N	N	Y	N	N	Y	Y	Y	A	Y	Y	Y	
Knox	Y	N	Y	N	Y	N	Y	Y	Y	Y	N	Y	Y	Y	
Larue	Y	N	Y	Y	Y	N	N	Y	Y	N	F	Y	Y	Y	
Laurel	N	N	Y	Y	Y	N	N	Y	Y	Y	A	Y	Y	Y	

Lawrence	Y	N	Y	N	Y	N	Y	Y	Y	Y	F	Y	Y	Y	
Lee	Y	N	N	N	Y	N	Y	Y	Y	Y	N	Y	Y	Y	
Leslie	Y	N	N	N	Y	N	N	Y	Y	Y	N	Y	Y	Y	
Letcher	Y	N	N	N	Y	N	N	Y	Y	Y	A	Y	Y	Y	
Lewis	Y	N	Y	Y	Y	N	N	Y	Y	N	A	Y	Y	Y	
Lincoln	Y	N	Y	Y	Y	Y	N	Y	Y	N	A	Y	Y	Y	
Livingston	Y	N	N	N	Y	N	N	Y	Y	N	N	Y	Y	Y	
Logan	Y	N	Y	Y	Y	N	N	Y	Y	N	A	Y	Y	Y	
Lyon	N	N	N	Y	Y	N	N	Y	Y	N	A	Y	Y	Y	
Madison	Y	N	Y	Y	Y	N	N	Y	Y	N	F	Y	Y	Y	
Magoffin	Y	N	N	N	Y	N	Y	Y	Y	N	A	Y	Y	Y	
Marion	Y	N	Y	Y	Y	N	N	Y	Y	N	F	Y	Y	Y	
Marshall	Y	N	Y	Y	Y	Y	Y	Y	Y	N	A	Y	Y	Y	
Martin	Y	N	N	N	Y	N	Y	Y	Y	Y	A	Y	Y	Y	
Mason	Y	N	Y	Y	Y	Y	N	Y	Y	N	A	Y	Y	Y	
McCracken	Y	N	Y	Y	Y	Y	Y	Y	Y	N	A	Y	Y	Y	
McCreary	Y	Y	N	N	Y	Y	N	Y	Y	Y	A	Y	Y	Y	
McLean	Y	N	Y	Y	Y	N	N	Y	Y	Y	F	Y	Y	Y	
Meade	Y	N	Y	Y	Y	N	N	Y	Y	N	A	Y	Y	Y	
Menifee	Y	N	N	N	Y	N	N	Y	Y	N	N	Y	Y	Y	
Mercer	Y	N	Y	N	Y	N	Y	Y	Y	N	A	Y	Y	Y	
Metcalfe	Y	N	Y	N	Y	N	Y	Y	Y	N	A	Y	Y	Y	
Monroe	N	N	N	N	Y	N	N	Y	Y	N	A	Y	Y	Y	
Montgomery	N	N	Y	Y	Y	N	N	Y	Y	N	A	Y	Y	Y	
Morehead	N	N	Y	Y	Y	N	N	Y	Y	N	N	Y	Y	Y	
Morgan	Y	N	Y	N	Y	N	N	Y	Y	Y	F	Y	Y	Y	
Muhlenberg	Y	N	Y	N	Y	N	N	Y	Y	Y	N	Y	Y	Y	
Nelson	Y	N	Y	Y	Y	N	N	Y	Y	N	F	Y	Y	Y	
Nicholas	Y	N	Y	Y	Y	N	N	Y	Y	N	A	Y	Y	Y	
Ohio	Y	N	Y	N	Y	N	N	Y	Y	Y	F	Y	Y	Y	
Oldham	Y	N	Y	Y	Y	Y	N	Y	Y	N	A	Y	Y	Y	
Owen	Y	N	Y	Y	Y	N	N	Y	Y	N	A	Y	Y	Y	
Owsley	Y	N	N	N	Y	N	N	Y	Y	Y	N	Y	Y	Y	
Pendleton	Y	N	Y	Y	Y	N	Y	Y	Y	N	A	Y	Y	Y	
Perry	Y	N	Y	N	Y	N	N	Y	Y	Y	A	Y	Y	Y	
Pike	Y	Y	N	Y	Y	N	Y	Y	Y	N	F	Y	Y	Y	
Powell	Y	N	Y	Y	Y	N	Y	Y	Y	N	A	Y	Y	Y	
Pulaski	Y	Y	Y	Y	Y	Y	N	Y	Y	N	F	Y	Y	Y	
Robertson	Y	N	N	N	Y	N	N	Y	Y	N	N	Y	Y	Y	
Rockcastle	Y	N	N	N	Y	N	N	Y	Y	N	F	Y	Y	Y	
Rowan	Y	Y	Y	Y	Y	N	N	Y	Y	N	F	Y	Y	Y	

Russell	Y	N	Y	Y	Y	Y	Y	Y	Y	N	A	Y	Y	Y	
Scott	Y	N	Y	Y	Y	Y	Y	Y	Y	N	F	Y	Y	Y	
Shelby	Y	N	Y	Y	Y	N	Y	Y	Y	N	F	Y	Y	Y	
Simpson	Y	N	Y	Y	Y	N	N	Y	Y	N	A	Y	Y	Y	
Spencer	Y	N	Y	Y	Y	N	Y	Y	Y	N	A	Y	Y	Y	
Taylor	Y	N	Y	Y	Y	Y	Y	Y	Y	N	A	Y	Y	Y	
Todd	N	N	Y	N	Y	N	N	Y	Y	N	F	Y	Y	Y	
Trigg	Y	N	Y	Y	Y	N	N	Y	Y	N	A	Y	Y	Y	
Trimble	Y	N	N	Y	Y	N	Y	Y	Y	N	N	Y	Y	Y	
Union	Y	N	Y	Y	Y	N	N	Y	Y	Y	F	Y	Y	Y	
Warren	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	A	Y	Y	Y	
Washington	Y	N	Y	Y	Y	N	N	Y	Y	N	A	Y	Y	Y	
Wayne	Y	N	N	Y	Y	Y	N	Y	Y	N	F	Y	Y	Y	
Webster	Y	N	N	N	Y	N	N	Y	Y	Y	F	Y	Y	Y	
Whitley	Y	Y	Y	N	Y	N	N	Y	Y	Y	A	Y	Y	Y	
Wolfe	Y	N	N	N	Y	N	N	Y	Y	Y	N	Y	Y	Y	
Woodford	Y	N	Y	Y	Y	N	Y	Y	Y	N	A	Y	Y	Y	

Appendix 48: Hazard Mitigation Grant Program Administration Plan

FEMA-DR-1841 HMGP Administration Plan Example

I. Introduction

A. Purpose

B. The purpose of the Hazard Mitigation Grant Program State Administrative Plan is to outline the program and financial management procedures utilized by the Kentucky Department of Military Affairs Division of Emergency Management (KyEM) to administer the Hazard Mitigation Grant Program authorized through Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288 as amended).

C. Authorities and References

1. Robert T. Stafford Disaster Relief and Emergency Assistance Act (Public Law 93-288 as amended, Section 404)
2. 44 CFR Part 13, Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments
3. 44 CFR Part 14, Administration of Grants: Audits of State and Local Governments
4. 44 CFR Part 80, Property Acquisition and Relocation for Open Space
5. 44 CFR Part 201, Mitigation Planning
6. 44 CFR Part 206, Federal Disaster Assistance , Subparts M and N
7. 44 CFR Part 207, Management Costs
8. 44 CFR Part 9, Floodplain Management and Protective of Wetlands
9. 44 CFR Part 10, Environmental Considerations
10. Executive Order 12612, Federalism, October 26, 1987
11. Single Audit Act of 1984, P.L. 98-502 and Single Audit Act Amendments of 1996, P.L. 104-156
12. Hazard Mitigation and Relocation Assistance Act of 1993 (Public Law 103-181)

13. OMB Circular A-102, Uniform Administrative Requirements for Grants and Cooperative Agreements with State and Local Governments
14. OMB Circular A-110, Uniform Administrative Requirements for Grants and other Agreements with Institutions of Higher Education, Hospitals, and other Non-Profit Organizations
15. OMB Circular A-133, Audits of States, Local Governments, and Non-Profit Organizations
16. GAO Government Audit Principles
17. Kentucky Prevailing Wage Law
18. OMB Circular A-87, Cost Principles for State, Local, and Indian Tribal Governments
19. OMB Circular A-122, Cost Principles for Non-Profit Organizations
20. OMB Circular A-21, Cost Principles for Educational Institutions
21. 31 CFR Part 205, Fund Transfers

II. The Commonwealth of Kentucky (KY) will comply with all applicable Federal Statutes and regulations in effect with respect to the administration of the Hazard Mitigation Grant Program (HMGP) as authorized. (44 CFR 13.11(c))

A. Definitions

1. Application - means the request for Section 404 funding submitted to (the Department of Homeland Security Federal Emergency Management) by the state as outlined in CFR 206.436(d).
2. Federal Hazard Mitigation Officer (FHMO) - means the FEMA employee responsible for carrying out the overall federal hazard mitigation program.
3. Grant - an award for financial assistance. The maximum total grant amount available to the state for disasters declared after October 1, 2006, as written in the Stafford Act, shall not exceed 15% of the total estimated federal assistance (excluding management costs) provided under section 403, 406, 407, 408, 410, 411, 416, and 601 of the Stafford Act. In accordance with 44 CFR 206.432 (2), A State with an approved Enhanced State Mitigation Plan in effect prior to the disaster declaration, which meets the requirements outlined in 44 CFR 201.5 shall be eligible for assistance under the HMGP not to exceed 20% of the total estimated Federal assistance. The estimate of Federal assistance shall be based on the Regional Director's estimate of all Damage Survey Reports (Project Worksheets), actual grants, mission assignments and associated expenses.

4. Grantee - a state or local government agency, or private non-profit agency to which a grant is awarded and which is accountable for use of the funds provided. The grantee is the entire legal entity even if only a particular component of the entity is designated in the grant award documents. The state is the grantee as contained in 44 CFR 206.433 and 206.436.

5. Governor's Authorized Representative (GAR) - the individual designated by the Governor to represent the Commonwealth in activities related to the implementation of Public Law 93-288 (Robert T. Stafford Disaster Relief and Emergency Assistance Act) and in ongoing state hazard mitigation activities pursuant to a Presidential Disaster Declaration.

6. Hazard Mitigation Survey Team (HMST) - the federal team established to identify mitigation issues in the immediate post-disaster setting. The HMST is also integral to early identification measure to be funded under the Hazard Mitigation Grant Program. For flood related disasters, the Interagency Hazard Mitigation Team shall serve in lieu of the HMST.

7. Interagency Hazard Mitigation Team (IHMT) the federal mitigation team that is activated following flood-related disasters pursuant to the December 15, 1980, Interagency Agreement for Nonstructural Damage Reduction to identify mitigation opportunities and issues.

8. Private Non-Profit Facility - any private non-profit educational, utility, emergency, medical, or custodial care facility providing essential governmental services to the general public. These facilities can be classified as the following:

a) Educational facility – classrooms and related supplies, equipment, and utilities (does not include buildings or items used for religious purposes or instruction)

b) Utility – gas, electrical, water, telephone, and sewage treatment facilities

c) Emergency facility – fire and police protection, ambulance and rescue facilities

d) Custodial Care facility – buildings and contents used to provide institutional care, rehabilitation facilities, museums, and zoos

9. A private non-profit agency or entity must have:

(1) Letter from the Internal Revenue Service granting tax exemption under Section 501 (c), (d) or (e) of the Internal Revenue Code, or

(2) Letter from the state indicating that the organization is a non-profit one organized or doing business under state law.

10. Project - any mitigation measure, project, or action proposed to reduce future damage, hardship, loss, or suffering from disasters. The term “project” is used interchangeably with the term “measure” in the regulations and this plan, and the term “measure” is used interchangeably with the term “project”.

11. Section 404 Projects - activities proposed by eligible applicants to the State Hazard Mitigation Team for Hazard Mitigation Grant Program funding following a Presidential Disaster Declaration.

12. State Hazard Mitigation Officer (SHMO) - the individual designated by the Governor to be responsible for the administration and coordination of the Section 404 Hazard Mitigation Grant Program.

13. State Hazard Mitigation Program means the ongoing state program involving a coordinated effort by state agencies to reduce the threat to people and property from natural and technological hazards. This program includes activities required under Section 404, as well as federal regulations during and following Presidential declared disasters.

14. State Hazard Mitigation Team - the state level that participates in post-disaster mitigation activities. The following entities are represented on the team:

- a) Governor’s Office for Local Development
- b) State Clearinghouse
- c) Transportation Cabinet
- d) Kentucky Division of Emergency Management,
 - (1) Director, or his designee
 - (2) Governor’s Authorized Representative
 - (3) State Hazard Mitigation Officer
 - (4) Recovery Branch Manager
 - (5) Area Manager
- e) Natural Resources and Environmental Protection Cabinet
- f) Area Development District Representative
- g) Other agencies and organizations as required
- h) Technical Advisors,
 - (1) University of Kentucky
 - (2) University of Louisville

15. Subgrant - award of financial assistance under a grant to an eligible subgrantee.

16. Subgrantee - the government or other legal entity to which a subgrant is awarded and which is accountable to the grantee for the use of the funds provided. Subgrantees may be a state agency, a local government, a private non-profit organization, or an Indian tribe, as detailed in 44 CFR 206.430 and 44 CFR 206.433.

17. Supplemental - an amendment to a hazard mitigation project application to add or modify one or more mitigation measures. It also denotes additional information added to the application during the eligibility process.

18. Definitions Used When Determining Project Eligibility:

a) Eligible – measure that meets the minimum project criteria identified in the HMGP regulations (44CFR 206.434)

b) Denied – measure that does not meet the minimum project criteria identified in the HMGP regulations

c) Suspended – measure appears to be eligible, but certain information is missing (such as cost-effectiveness or environmental information)

d) Pending – Measure that has been received but the initial review for eligibility has not been determined

e) Void – Measure has been withdrawn from consideration

19. Other definitions applicable to the administration of the Hazard Mitigation Grant Program are found in 44 CFR Parts 13.3, 201, 206.1, 206.401, and 206.431, the Kentucky Administrative Plan for Public Assistance, and the various federal and state programs and financial regulations and policies.

III. Assignments

A. State and Local Government

1. The Kentucky Department of Military Affairs Division of Emergency Management is designated to administer the Section 404 Hazard Mitigation Grant Program. As specified in 44 CFR 206.436, the GAR is the program administrator.

2. The SHMO, Leslie Mahoney, an employee of the KyEM Recovery Branch, is designated to coordinate activities of the State Hazard Mitigation Team and to serve as the responsible individual for project management and administration of the funds. The Officer shall be assisted in project management and administration of funds by up to seven full-time mitigation specialists and two part-time specialists. These employees will work under the supervision of the SHMO.

3. The State Hazard Mitigation Team (SHMT) members shall be selected by designated Directors/Commissioners/Cabinet Secretaries of state agencies, or heads of non-state agencies, having hazard mitigation expertise and responsibilities. An Executive Order by the Governor or Memorandum of Understanding with KyEM may be used as needed to define the authority and responsibility of team members.

4. Local governments shall be requested to provide representatives as needed for the IHMT or HMST and to provide information on damages, local issues, local programs and projects.

IV. Funding and Cost Sharing (CFR 206.432(b))

A. The federal share shall not exceed seventy-five percent (75%) of the total eligible project cost.

B. Grants shall not exceed 20% of the total estimated federal assistance (excluding management costs) provided under sections 403, 407, 408, 410, 411, 416, and 601 of the Stafford Act. The estimate of Federal assistance shall be based on the Regional Director's estimate of all Damage Survey Reports (Project Worksheets), actual grants, mission assignments, and associated expenses.

C. The non-federal share may be a combination of other state, local, or private funding as specified in federal financial regulations and guidelines.

D. The eligible project cost sharing formula for disasters, shall be seventy-five percent (75%) federal, twelve percent (12%) state and thirteen percent (13%) funding from local entities.

E. The local share may be composed of local government generated revenue, private sector resources, force account and other methods specified in federal regulations, and other grant money that law or regulations does not prohibit from being utilized. The non-federal share may exceed the federal share. FEMA shall not contribute above the federally approved estimate. Specific requirement for the State cost share shall be established in the FEMA-State Agreement which is signed by the Governor. State Agencies which are subgrantees shall be responsible for the entire non-federal share.

F. Five Percent Set-Aside

1. For each open and future Presidential Disaster Declaration, DHS-FEMA shall set-aside up to 5% of the total HMGP funds available that Kentucky can use at its discretion for hazard mitigation projects. Projects eligible under this program are those often difficult to evaluate against traditional program cost effectiveness and eligibility criteria. It is recognized that these types of projects can provide a benefit in reducing or eliminating vulnerability.

2. To be eligible, the type of set-aside project must be identified in the State Hazard Mitigation Plan and meet the HMGP goal of reducing, or preventing, future damage to property, and to reduce or prevent the loss of life or injury. In

lieu of the benefit/cost analysis, the State must include a narrative in the application identifying the hazard mitigation benefits and indicate that there is a reasonable expectation that future damage or loss of life or injury shall be prevented. These projects must be reviewed to ensure compliance with the National Environmental Policy Act and under other applicable federal environmental laws. The Five Percent Set-Aside Program is designed to provide Ky discretion along with the responsibility to provide the rationale for cost effectiveness.

3. On an interim basis, effective August 18, 1998, DHS-FEMA has increased the available discretionary Five Percent Set-Aside to 10% for the Hazard Mitigation Grant Program associated with disaster declarations for tornado and other high-wind events. This additional 5% set-aside is intended to provide funding for tornado and high-wind projects. DHS-FEMA may terminate this interim policy at any time.

G. Obligation of federal funds for eligible projects shall be completed upon notification from FEMA.

H. A contract will be executed between the State and the Subgrantee upon project approval by FEMA.

I. The state will notify FEMA of its intent to participate in the Hazard Mitigation Grant Program by specifically including a request for Hazard Mitigation funding in Kentucky's request to the President for a major disaster declaration (44 CFR 206.436(c); 206.36(a)).

J. Hazard Mitigation Grant Program funds under CFR 206.434(d) cannot be used as a substitute or replacement to fund projects when funds are available under other federal authorities. To ensure that critical hazard mitigation measures can be implemented when there is a lack of funding in other federal programs or authorities, a limited exception is authorized in cases of extraordinary threats to lives, public health, public safety or improved property.

K. Under section 322 of the Stafford Act as amended by the Disaster Mitigation Act of 2000, authorizes up to 7% of HMGP available to the State for development of State, local and tribal mitigation plans.

V. Eligibility Requirements

A. Eligible sub-applicants (44 CFR 206.434(a))

1. State and local units of government
2. Private non-profit organizations or institutions that own or operate a private non-profit facility as defined in 44 CFR 206.221(e)
3. Indian Tribes or tribal organizations

B. Eligible Project: To be considered eligible for funding a project must meet the following minimum criteria:

1. Federal project criteria as specified at 44 CFR 206.434(c)
2. Be located in a community participating in good standing in the National Flood Insurance Program if that community is mapped and has an identified special flood hazard area(s)
3. Meet all applicable federal, state, and local permit and regulatory requirements
4. Not contribute to or encourage development in a flood plain or other hazardous areas
5. Be cost effective and substantially reduce the risk of future damage, hardship, loss or suffering resulting from a major disaster. Applicants must provide a comparison of the cost of the project versus the anticipated value of future damage reduction by demonstrating and documenting that the project:
 - a) Addresses a problem that has been repetitive or is one that poses a significant risk to lives, health and safety, essential services, critical facilities or the local economy if left unsolved
 - b) Must not cost more than the anticipated value of the reduction in damages to the area if future disasters were to occur (benefits exceed cost of the proposal); both costs and benefits shall be computed on a net present value basis
 - c) Is the most practical, effective, and environmentally sound alternative after consideration of a range of alternatives and has the greatest potential impact on reducing future disaster losses
 - d) Contributes, to the extent practicable, to a permanent or long-term solution to the problem it is intended to address (rather than temporary or short term)
 - e) Considers long term changes to the project area and has manageable future maintenance and modification requirements
 - f) Benefits the community rather than a small number of people and best fits within an overall plan for development and/or hazard mitigation for the community or the Commonwealth

VI. Is consistent with any applicable Local and State Hazard Mitigation Plans

VII. Solves a problem independently, or constitute a functional portion of the solution where there is assurance that the project as a whole will be completed.

VIII. Applicant Notification

A. To ensure successful completion, it is critical that selected projects have state and local support and interest. Consequently it is imperative that information regarding the Hazard Mitigation Grant Program be widely disseminated using multiple methods to potential applicants. An announcement letter will be sent to potential applicants, via email providing basic information on the application process, program and project eligibility, available funds and key deadlines. The email will also include an example of a pre-application Letter of Intent (LOI). The email will be sent to each Emergency Management Area Manager, each ADD Executive Director and the Kentucky League of Cities for dissemination. The information will also be posted on the KyEM website. In addition, the package will be emailed to individuals who have previously requested to receive information.

B. The State and Federal Hazard Mitigation Officers shall coordinate the presentation of information regarding the Hazard Mitigation Grant Program. Applicants' briefings shall be used to create an early awareness of the program, not to present detailed information on the application process. Full applicant briefings will be held in each declared area.

C. At the discretion of the State and Federal Hazard Mitigation Officers, a joint press release, describing the program may be developed and issued. The release should, at a minimum, contain program information, the LOI deadline and a point of contact for further information.

D. Detailed briefings for potential applicants shall be scheduled as needed. The KyEM Area Coordinators, who are the local point of contact for emergency management activities, and are knowledgeable of the people and issues within their designated areas, shall be used to disseminate information about the program. The ADD, which are the primary link between state and local governments for grant programs and economic development at the local level, shall also disseminate information on the program and encourage potential applicants to identify projects.

IX. Project Identification

A. The Mitigation Strategy Section of a FEMA-approved Hazard Mitigation Plan is the first source of identification of mitigation issues and potential projects. These strategies have been reviewed and prioritized by the participating jurisdictions according to the jurisdiction's analysis of its risks and vulnerabilities.

B. Information acquired during preliminary damage assessment is one source for identification of mitigation issues and potential projects. Damage assessment teams shall be briefed as to the availability and requirements of the Hazard Mitigation Grant Program so potential projects can be identified for follow-up by the State Hazard Mitigation Officer.

C. Projects not eligible for funding through the Public Assistance Program may be eligible for Hazard Mitigation Grant Program funding.

D. The Public Assistance Inspection Teams consisting of federal, state and local representatives may also identify broad or comprehensive projects potentially impacting several sites.

E. Interagency Hazard Mitigation Reports from previous disasters shall be reviewed to identify potential projects for funding.

F. Issues and recommendations of the Interagency Hazard Mitigation Team or the Hazard Mitigation Survey Team shall be reviewed to identify potential projects.

G. Potential projects can also be identified during the preparedness phase of emergency management from a variety of sources that may not be apparent until a disaster occurrence or recovery effort is underway. Applicants will be encouraged to develop projects in advance of disaster declarations so that once funds become available; applications can be submitted to KyEM.

X. Application Procedures

A. Request by the State to participate in the Hazard Mitigation Grant Program.

1. The Commonwealth will notify DHS-FEMA of its intent to participate in the Hazard Mitigation Grant Program by specifically including a request for Hazard Mitigation funding in its request to the President for a major disaster declaration (44 CFR 206.436; 206.36(a)).

B. Submission of HMGP Applications to the State

1. A LOI for a proposed project must be submitted to the SHMO within 30 days of notification by the KyEM of the availability of funds and request for LOIs .

2. The LOI shall include the following:

- a) Biographical information of the applicant's jurisdiction;
- b) Brief description and location of the proposed project;
- c) Approximate cost, if possible to determine, of the proposed project;
- d) Indication of participation in good standing in the National Flood Insurance Program.
- e) Applicability and conformance of a local mitigation plan.

3. If all required information is not provided, the SHMO may request supplemental information depending upon the scope of the project and time frame.

4. After all LOIs for the regular program have been received the State Hazard Mitigation Office will review for preliminary eligibility.
5. The State Hazard Mitigation Team shall meet approximately 30 days after the LOI due date to review and act upon initiative and planning Letters of Intent. If necessary, the team may meet more than once to take action on the projects. The application for Hazard Mitigation Grant Program funding should be submitted by the communities recommended for application development by the State Hazard Mitigation Team within 90 days after notification of the Team's recommendation. All projects must be submitted to DHS-FEMA no later than 365 days following the date of the disaster declaration.
6. Eligible LOIs for the regular program will go forward to the Benefit Cost Analysis and grant application phases. Applications which require a BCA for project approval will complete a Data Documentation Template and submit it to the State Hazard Mitigation Office for analysis. Once a positive (1.0+) Benefit Cost Ratio is reached, the project application process can begin.
7. Completed applications for the regular program will be forwarded to the State Hazard Mitigation Team for review, approval, and prioritization.
8. Letters of Intent and applications must be submitted by the Applicant's Agent or Chief Executive Officer of the responsible state or local government (city/county/merged governments) or private non-profit organization. The letters and applications are to be submitted to the State Hazard Mitigation Officer, Kentucky Division of Emergency Management, 100 Airport Road, 3rd Floor, Frankfort, Kentucky 40601.

C. State Review, Ranking, and Selection of projects to be submitted to DHS-FEMA

1. The State Hazard Mitigation Team shall be responsible for reviewing, ranking, and selecting projects to be submitted to FEMA for Hazard Mitigation Grant Program funding.
2. Each application shall be reviewed for eligibility in accordance with criteria contained in Section IV (A) & (B) of this plan, 44 CFR 206.434 and 44 CFR 206.435, and the strategy and criteria contained in the State Hazard Mitigation Plan.
3. Selection criteria will include, but not limited to:
 - a) Measures that best fit within an overall plan for development and/or hazard mitigation in the community, disaster area, or State
 - b) Measures that, if not taken, will have a severe detrimental impact on the applicant, such as potential loss of life, loss of essential services, damage to critical facilities, or economic hardship on the community

c) Measures that have the greatest potential impact on reducing future disaster losses; 44 CFR 206.435 (b)

4. In addition to the selection criteria noted above, consideration should be given to measures that are designed to accomplish multiple objectives including damage reduction, environmental enhancement, and economic recovery, when appropriate. 44 CFR 203.436 (c).

5. It is the responsibility of the State Hazard Mitigation Team to select and prioritize initiative and planning projects to be submitted to FEMA for funding. The State Hazard Mitigation Officer shall serve as the coordinator and chair of the state team. The State Hazard Mitigation Team also provides, technical advice and assistance to the SHMO and applicants in preparing detailed or technical information that may be required by FEMA, and for the administration of the program.

6. During the reviewing, ranking, and selection process, it is probable that additional information on a project shall be needed by the team or FEMA. The State Hazard Mitigation Officer shall be responsible for obtaining the needed information from the Applicant's Agent.

7. The State Hazard Mitigation Office will provide technical assistance to communities for project identification, development, environmental review, and benefit cost analysis. The project management staff and SHMO will conduct an application workshop with each sub-applicant. This workshop will contain a review of the application and what is needed to make it successful. Also, a benefit cost analysis review will be done informing the sub-applicant what information is needed to conduct a BCA. The SHMO and project management staff are also available via phone and email to answer any questions that might arise during the application process.

8. All project applications are submitted to the Department for Local Government's Kentucky State Clearinghouse for environmental review. This clearinghouse is Kentucky's designated single point of contact for providing state and local compliance with federal funding requirements, servicing applicable agencies such as the Division of Water, Department of Fish and Wildlife, State Historic Preservation Office, and Natural Resources.

9. All benefit cost reviews are performed by the State Hazard Mitigation office.

10. Per 44 CFR, Part 206.437(b)(4)(iv), the Commonwealth uses the following procedures to conduct environmental and floodplain management reviews:

a) The SHMO will seek confirmation from the NFIP State Coordinator that applicants are participant, in good-standing with the NFIP, if applicable.

b) KyEM Uses the Kentucky Clearinghouse to conduct state-level environmental review of all projects.

D. Notification of Applicants and Appeal of SHMT Decisions.

1. Following the reviewing, ranking, and selecting process by the SHMT, each applicant shall be notified by the State Hazard Mitigation Officer of the team's decision. Applicants whose application, did not meet any of the criteria as specified in the State Hazard Mitigation Plan may appeal the decision of the SHMT. All projects shall be ranked regardless of meeting established criteria. Appeals of the ranking shall not be available. If an appeal is not made, the application shall be removed from the process. Remaining applications shall be ranked accordingly at the end of the appeal period.

2. Appeals shall be reviewed by a HMGP Appeals Review Board. The board shall consist of three members nominated by the SHMO and confirmed by the GAR from state, local, and private non-profit agencies who are not Applicants' Agents for the current declaration. One member shall be appointed from KyEM. The SHMO shall serve as coordinator and secretary for the board, but shall not have any input into the board's decisions. Current members of the SHMT shall not be eligible to serve on the board.

3. An appeal must be submitted in writing to the SHMO within 15 working days from the date the applicant receives notification of the team's decision. Appeals may only address the criteria which were not met by the project application. Applications shall not be opened for supplemental information not relating to the reasons the application did not meet the criteria.

4. Upon submission of an appeal, the SHMO shall have ten working days to prepare each appeal for the HMGP Appeals Review Board. The board shall have ten working days to review the appeals and shall meet in open meeting on the tenth day to review the appeals and make its decisions. Applicants whose appeals are being reviewed shall be invited to attend the meeting of the board.

5. Based on the applications and appeals, the board may make one of the following decisions:

a) The application meets all the criteria contained in the State Hazard Mitigation Plan.

b) The application meets some of the criteria contained in the State Hazard Mitigation Plan, but does not satisfy all criteria and remains non-eligible for funding. Following this decision, the application shall be removed from the ranked projects.

c) The application does not meet the criteria as specified in the State Hazard Mitigation Plan.

6. Following the meeting of the board, the SHMO shall make the adjustments as specified and make final notifications to all applicants.

E. Submission of Selected Projects to FEMA [44 CFR 206.436 (c)]

1. The SHMO shall prepare a project application package for each selected project for submission to FEMA. The project application package shall contain the following items

a) A prioritized list of project titles

b) A cover letter attached to each application identifying the specific mitigation measure for which funding is requested; the narrative will describe the anticipated project benefits, justification for team recommendation, and a rationale for project selection. The narrative will contain pertinent project management information not included in the State Administrative Plan for Hazard Mitigation. A certification attached to each application from GAR that the project meets all eligibility requirements of this plan is also in the cover letter.

c) A completed SF 424 (Application for Federal Assistance) with Assurances signed by the GAR.

2. Projects must be submitted to FEMA no later than 365 days following the date of the disaster declaration. The State can apply to FEMA for up to two (2) 90-day extensions to the application period.

3. Upon notification from FEMA of a decision on selected projects, the State Hazard Mitigation Officer shall notify applicants of the status of the projects.

a) Approved

4. Execute the Commonwealth of Kentucky PON2 contract and provide an award briefing regarding:

(1) Quarterly reporting requirements

(2) Requesting funds

(3) Eligible project costs

(4) Project cost documentation and administrative procedures

(5) Period of Performance

(6) Closeout

b) Suspended

5. Give the reasons for the suspended status and detail to the applicant what supplemental information is required.

a) Denied

6. Give the reasons the project was denied. Applicants shall be informed of the following appeal process as outlined in Item F below.

F. Appeal Process

1. State Action

a) The GAR appeals, on behalf of an applicant or the State, any FEMA denial of federal assistance.

b) The appeal shall be made by the sub-applicant (local community) in writing and submitted to the SHMO within 45 days after receipt of the notice of the denial from FEMA.

c) The State's appeal shall be in writing and submitted to FEMA within 60 days from the date the denial was received from FEMA.

2. FEMA Regional Director

3. The FEMA Regional Administrator shall review the appeal and notify the GAR within 90 days from the receipt of the appeal.

4. FEMA Associate Director

a) If the appeal is denied by the Regional Director, the GAR may appeal to the FEMA Associate Director. This appeal shall be made in writing through the Regional Administrator and shall be submitted no later than 60 days following receipt of the Regional Director's denial.

b) The Associate Director shall decide on the GAR's appeal within 90 days from the receipt of all related information.

c) The Associate Director may refer technical appeals to independent scientific or technical advisors for review.

5. FEMA Director

a) If the appeal is denied by the Associate Director, the GAR may appeal to the FEMA Director. Appeals shall be made in writing through the Regional Administrator and shall be submitted no later than 60 days after receipt of the Associate Director's denial.

b) The Director shall decide on the GAR's appeal within 90 days following receipt of the appeal or shall make a request for supplemental information. Within 90 days following receipt of the supplemental information, the Director shall notify the applicant of the decision.

c) The Director may refer technical appeals to independent scientific or technical advisors, or FEMA personnel, for review and recommendations. Within 90 days after receipt of the recommendations the Director shall notify the applicant of the decision. 44 CFR 206.440 (3(d))

6. If supplemental information is requested by the Regional Director, Associate Director or Director, the applicant shall have 20 working days from the applicant's receipt of the request to submit the information to the GAR.

XI. Program Management

A. Scope of Work and Completion of an Approved Project

1. Work on an approved project shall begin within 30 days of the executed contract and should be completed by the Period of Performance date as established in the approval letter from FEMA. If a time extension is needed, the applicant may request up to a one year extension to the SHMO. The State will in turn request the extension from the FEMA Regional Director. A second extension may be requested through FEMA Headquarters.

a) An eligible HMGP project which is part of a larger undertaking may be declared complete for final federal and state payment if it meets the eligible FEMA scope of work, even if the larger undertaking is not yet complete [CFR 206.438 (d)].

b) If a project is not completed, and there is not adequate justification for non-completion, no federal funding shall be provided [CFR 206.438 (d)]. There shall be no State funding for non-completed projects if FEMA does not provide funding. Project monitoring shall identify such projects and FEMA shall be notified through the Quarterly Tracking Report.

c) The State Hazard Mitigation office shall track the completion of work using the following tools:

(1) Quarterly Reports to be sent out for the quarters ending March 31, June 30, September 30 and December 31

(2) Emails, phone calls, and visits as conducted by the grants manager and SHMO

2. Programmatic changes: Grantees or subgrantees must obtain prior approval of the State Hazard Mitigation Office and in some cases FEMA whenever any of the following actions is anticipated [44 CFR 13.30 (d)]:

- a) Any revision of the scope of work of the project (regardless if there is an associated budget revision requiring prior approval)
- b) Any revision of the scope of work of the project that will result in additional funds being requested
- c) A need to extend the period of performance
- d) Changes in key personnel who were specified in the application or grant award

3. If the subgrantee wishes to make modifications to the scope of work or cost, the SHMO will submit the revised scope of work to FEMA Region IV for determination of eligibility. The request has to be made within the application period. (Letter from Region IV dated November 17, 1993). Depending on how significant the project modifications are, FEMA's review shall lead to eligibility or denial of the modifications. For denials, the applicant has three choices:

- a) Proceed with the original eligible project
- b) Withdraw the original project, deobligate project funds, and submit a new project application, if within the allowable application window
- c) Follow the appeal process outlined in this document

4. Budget revisions must be submitted to FEMA for prior approval if they result in the need to obligate additional HMGP funds. Submissions to FEMA shall be after the GAR reviews the proposed modifications and determines them to be justified. Additional HMGP funds may be obligated only if there are enough unobligated funds remaining in the disaster declaration to cover the request. (See VIII C 12 for additional information on cost overruns.)

B. State and Local Program Administration

1. A project file shall be maintained by the SHMO on each project submitted to the State. Those applications not completed by the applicant, or denied by the State Hazard Mitigation Team and FEMA, shall be maintained in the hazard mitigation program database for possible future use by the local jurisdiction. All Letters of Intent not followed by an application shall also be maintained.

2. In accordance with 44 CFR 13.42, CPG 1-32, OMB Circular A-102, and OMB Circular A-110, all financial records, supporting documents, statistical records, and all other records pertinent to the eligible project shall be retained by the State and applicant for three (3) years after the completion date of the project for purposes of examination and audit. State and local governments may also impose additional record retention and maintenance requirements

- a) The retention requirement extends to books of original entry, source documents, supporting and supplemental accounting transactions,

general ledger, subsidiary ledgers, personnel and payroll records, canceled checks, and related documents and records. Source documents include copies of all agreements, sub-agreements, applications, and required grantee/subgrantee financial and narrative reports. Personnel and payroll records shall include the time and attendance reports for all individuals reimbursed under the project, whether they are employed full-time or part-time. Time and labor reports shall be required for consultants who are reimbursed.

b) The three year retention period starts from the date final and complete documentation is submitted to the awarding agency.

c) Exceptions to the three year requirement apply to situations such as equipment and real property acquired with federal funds, audits, litigation, claims, negotiations, or other actions involving the records as stipulated in 44 CFR 13.14, OMB A-102, and A-110.

3. A management system shall be implemented by the local jurisdiction for the duration of the project (44 CFR 13.20 (b) (2); 44 CFR 13.24 (b) (6); 44 CFR 13.36 (b) (2); CPG 1-.32; page 2-8 (14); OMB A-110, Attachment F). Quarterly Progress Reports shall be submitted by the Applicant's Agent to the State Hazard Mitigation Office beginning at the end of the first full federal fiscal year quarter after FEMA notification of award.

4. The State Hazard Mitigation Officer shall submit to FEMA each quarter, based on the Federal fiscal year, a Hazard Mitigation Program Tracking Report on each project. The Report, at a minimum, will indicate the status and completion date for each measure funded. Any problems or circumstances affecting completion dates, the approved scope of work or project costs which are expected to result in non-compliance with approved grant conditions, shall be described in the report. Final inspection of work completed and documentation of costs shall contain a complete assessment of project accomplishment.

5. Selection of Applicant's Agent

6. During development of the HMGP application, the applicant shall formally appoint and document an Applicant's Agent to serve as project manager. If a new Applicant's Agent is appointed during the eligibility or project implementation process, documentation of the appointment must be submitted to the SHMO.

7. Responsibilities

a) Applicant's Agent

(1) Monitor project completion and submit Quarterly Progress and Financial Reports to the State Hazard Mitigation Office as directed at the time of the grant award

(2) Maintain original financial records, documentation, and receipts necessary to document all expenditures connected with the project (44 CFR 13.20 (b) (1); (14))

(3) Ensure the eligible scope of work approved by DHS-FEMA and the State as specified in the project application is completed in accordance with all applicable standards of safety, decency and sanitation, and in conformity with applicable codes, specifications, laws, regulations, and grant management requirements

b) State Hazard Mitigation Officer

(1) Reviews Quarterly Progress and Financial Reports submitted by subgrantees

(2) Monitors and evaluates project accomplishments and adherence to the approved scope of work, work schedule, and program and financial procedures

(3) Submits HMGP funding balance and status reports to FEMA as required

(4) Reviews requests for interim and final payments and makes recommendations to the GAR

(5) Maintains the necessary financial documentation and progress reports to support funds disbursed to subgrantees

(6) Reviews claims, certification of costs, cost overruns, changes in scope, audits, and appeals, and forwards such information to the GAR

(7) Coordinates hazard mitigation project actions with the GAR and FEMA as necessary

(8) Provides assistance as required in administering the Hazard Mitigation Grant Program and serves as the coordinator and chair of the State Hazard Mitigation Team

(9) Performs any administrative actions necessary for the normal function of the Hazard Mitigation Grant Program

(10) Notifies sub-grantees of actions taken in response to applications

c) Governor's Authorized Representative (GAR)

(1) Responsible for overall grant management

- (2) Provides technical assistance to subgrantees as necessary
- (3) Certifies that all claims and costs are eligible and compliant with provisions of the FEMA-State Agreement and submits claims to the FEMA Region IV Director
- (4) Serves as a member of the State Hazard Mitigation Team
- (5) Provides technical, administrative, and financial management advice to the SHMO

C. Financial Administration

1. KyEM shall serve as the grantee for all projects financial management in accordance with 44 CFR Part 13. Subgrantees (applicants) are accountable to the grantee for funds that are awarded. The funding period as defined in 44 CFR 13.23 is the time period from date of the FEMA award until the end of the period of performance.
2. Procurement Standards (CFR 13.36 (b); A-110, Attachment O)
 - a) Subgrantees shall comply with procurement procedures that reflect applicable state and local laws and regulations, provided that the procurements conform to applicable federal laws, regulations, and standards. All procurement transactions shall be conducted in a manner providing full and open competition consistent with the standard in the federal regulations as contained in the Common Rule. Any local public agency may adopt the provisions of the Kentucky Model Procurement Code and no other statutes governing purchasing shall apply upon adoption of the code. If the Model Procurement Code or other procurement code is not adopted, the state's procurement code shall apply.
3. Allowable Costs
 - a) General policies for determining allowable costs are established in 44 CFR 13.22, 2 CFR 225 (Cost Principles for State and Local Governments (Common Rule), Office of Management and Budget), Circular No. A-122 (Cost Principles for Non-Profit Organizations), and CPG 1-32 (Financial Assistance Guidelines, FEMA). Exceptions to those policies are allowed by 44 CFR 13.4 and 13.6.
 - b) Donated land and cash contributions can be used for all or a portion of an applicant's match. If the donors are the owners of the property and are identified on the local deeds as such, the match is eligible. General policies regarding cost and matching consideration requirements are contained in 44 CFR Part 13.22 and 44 CFR Part 13.24.

c) Eligible indirect costs, administrative expenses, and any other expenses not directly chargeable to a specific project that are reasonably incurred for administration and management of a grant award or program management (44 CFR Part 207) are deemed Management Costs.

(1) Management Costs. Administrative costs shall be in accordance with 44 CFR 13.22 and 44 CFR Part 207. Salaries of State personnel assigned to administer the Hazard Mitigation Grant Program may be eligible when approved by the Regional Administrator.

(a) Costs of State personnel (regular time, overtime, per diem, and travel expenses) assigned to administer the hazard mitigation program in the Joint Field Office are eligible. Other allowable costs may include but not limited to indirect costs, supplies, equipment, printing, phone, meeting rental, training, tuition, postage, and licenses. The staffing plan shall be in accordance with the administrative plan requirements.

(b) After the closing of the Joint Field Office (JFO), cost of state personnel salaries (regular time, overtime, per diem and travel expenses) for the continuing management of the Hazard Mitigation Grant Program may be eligible when approved in advance by the FEMA Region IV Administrator. The State shall submit a plan for such staffing in advance of the closing of the JFO. Other allowable costs that may be included but not limited to, are indirect costs such as supplies, equipment, printing, phone, meeting rental, training, tuition, postage, and licenses.

(c) The staffing pattern for the disaster shall be as follows:

- (i) State Hazard Mitigation Officer at KyEM
- (ii) Two Project Grants Managers at KyEM
- (iii) Administrative Assistant at KyEM
- (iv) Mitigation Specialist at KyEM
- (v) Program Coordinator at University of Kentucky mitigation office
- (vi) Project Grants Manager at University of Kentucky mitigation office
- (vii) Planning Grants Manager at University of Kentucky mitigation office
- (viii) Benefit Cost Analyst at University of Kentucky mitigation office
- (ix) Two Graduate Research Assistants at University of Kentucky mitigation office
- (x) Additional staff as needed.

(2) For this disaster the State has decided not to pass through any Management Costs to the sub-grantee for administering the grant. The State believes that the administrative expenses not directly chargeable to a specific project are minor. These indirect chargeable expenses include completing the required Quarterly Report, completing requests for payment of funds to the State, and completing closeout documentation to the State. Other expenses incurred by the sub-grantee in administering the scope of work of the project shall be directly charged to the grant. The State believes that its contribution to the nonfederal share of the total project costs more than makes up for the costs of these unreimbursable expenses.

4. Kentucky Prevailing Wage Law

a) All public authorities (applicants) shall adhere to the Kentucky Prevailing Wage Law, if the total project cost is over \$250,000.00. There shall be no exemptions for a city, county, urban-county government, or school district.

b) If a public authority applicant, as defined in the law, has a hazard mitigation project, the cost of which shall exceed \$250,000.00, it is the responsibility of the applicant to obtain the prevailing wage rates prior to advertising the project for bid. The notification form included in the application shall be used to receive notification from the Labor Cabinet. After notification of a prevailing wage project, the Labor Cabinet shall assign a project number and send the correct wage rates to the applicants. These rates must be used in the project's budget to calculate the cost of the project.

c) It is the responsibility of the applicant to ensure that the wage rates are included in the bid documents and are made a part of every contract for the construction of the specific public work. The Applicant's Agent must include in the project's cost documentation that this procedure was followed and that the correct rates were paid.

5. Interim Payment of Federal Funds to Subgrantee (Applicant) (44 CFR 13.41 (c) (3); CFR 13.20 (b) (7); OMB A-110, Attachment F (3) (b) (3).

a) Interim payments of federal funds may be issued by the GAR upon recommendation of the SHMO based upon properly completed, properly documented, eligible work accomplished and the requirement for funds. In the event that circumstances warrant, the amount of interim payment requested by the applicant may be adjusted. Such circumstances include:

(1) Applicants history of providing adequate cost documentation for this and other declared disasters

(2) failure to properly complete the eligible scope of work for this and other disaster programs for this and other disaster declarations

(3) To provide a reserve of funds for the project to cover unforeseen future case flow problems

b) Requests for interim payment of funds with justification and supporting documentation must be submitted in writing to the SHMO. Required documentation consists of the following:

(1) Master Agreement Invoice

(2) Summary of Documentation

(3) Daily Activity Reports for Labor, Equipment and Materials

(4) Time sheets showing pay period, employee name, job classification, hours worked each day by application number, total hours worked for the pay period, rate of pay (regular or overtime), total earnings, and paycheck number

(5) Canceled checks or ledger for materials purchased and contract work

(6) Delivery tickets for materials

(7) Copy of contract award

(8) Invoices and all billing documentation

(9) Bid advertisements from news media

(10) List of bidders and bid amounts of each

(11) Statement by chief executive of the jurisdiction of why the low bid was not accepted, if applicable

(12) Other documentation required by the SHMO or GAR for proper program administration and; state and federal grant management and audit requirements

c) In addition to the required documentation listed above, the following shall be required for acquisition and relocation projects.

(1) Map indicating properties acquired and relocated

(2) Documentation of purchase price and other costs associated for each property purchased

(3) Specific (by name of owner) addresses of purchased property

(4) Deed, with green space requirement, for each property purchased

(5) Appraisal for each property purchased by address

(6) Voluntary Transaction Agreement

(7) Purchase Closing Worksheet or Settlement Statement for each property

(8) Other documentation deemed necessary by the SHMO and GAR for proper program management and state and federal audit requirements

d) If the request for an interim payment of federal funds is denied, the SHMO shall notify the Applicant's Agent in writing of the denial with reasons. Additional documentation and explanation to support the request may be requested.

e) If the request for an interim payment of federal funds is approved, the SHMO shall review and sign the Master Agreement (MA) Invoice and submit it to the appropriate KyEM accountant for processing. See Disbursement Procedures for details.

f) In the event of a serious documented cash flow problem, an interim payment of funds may be made on the basis of unpaid invoices. Except for the requirements of canceled checks, all other documentation must be provided. This type of interim payment shall be administered based upon invoices. Copies of canceled checks or ledgers for payments must be provided to the SHMO as soon as the originals clear the bank. An Advanced Funding Agreement must be signed by the Applicant's Agent and the GAR before any advanced payments are processed.

6. Final Payment of Federal and State Shares to Subgrantee (Applicant)

a) Final payment of the federal and state shares shall be made after project completion when all eligible costs have been determined and documented and the final inspection of the SHMO is made. The applicant's claim and completed documentation for reimbursement must be submitted within 60 days of the completion of work. Upon written justification from the applicant, the SHMO may grant an extension of 30 days. Final project closeout will be in compliance with 44 CFR 13.50.

b) Final federal and state shares payments shall be made in a single sum after final inspection and documentation review by the SHMO as part of the project closeout. Required supporting documentation for final payment is the same as for interim payments.

7. Monitoring Completion of Scope of Work and Project Documentation (44 CFR 13.40 (a), (b), (c), (d), (e), (f); 44 CFR 206.437 (b) (vii); OMB A-110, Attachment H).

a) During project completion and prior to the final payment, the SHMO or State Mitigation Staff may inspect the work accomplished or the completed project, and review cost documentation. Inspections and reviews shall document that all eligible work is accomplished according to the approved scope and that all costs are properly documented. State and federal inspectors and auditors may also document completion as deemed necessary by FEMA, the GAR, and the SHMO.

b) If the final inspection(s) and documentation review(s) do not indicate any disagreement, the SHMO shall calculate the final payments based on the federal and state cost shares as specified in the federal regulations, taking into consideration any interim payments made to the applicant.

c) If interim or final documentation, inspections, or other reviews reveal problems in performance of work and/or documentation, the SHMO shall work with the applicant to correct the deficiencies. If deficiencies noted by the SHMO are not corrected, interim and final payments shall not be made. 44 CFR 206.438 (d) states that if a HMGP project is not completed and there is inadequate justification for non-completion, there shall be no federal funding for that project. State policy is the same as the federal regulation. Other enforcement remedies are at 44 CFR 13.43 and 13.12.

d) The SHMO may conduct a random number of applicant inspections of completed projects to ensure record keeping procedures are adequate.

e) The SHMO shall use the eligible application, Administrative Handbook, federal and state grant management regulations and procedures, and standard operating procedures to conduct the documentation review and to prepare a report for the GAR and project file.

f) The SHMO shall brief the Applicant's Agent on the findings and shall follow-up as needed to ensure that corrective action is taken.

8. Disbursement Procedures

a) All federal funds disbursements shall be made using FEMA Letter of Credit procedures.

b) When the MA invoice is approved by the GAR for interim and final payments, the SHMO shall submit the MA invoice, eMARS invoice, and Local Match packet to the Administrative Services Accountant who shall draw down funds from the FEMA Smartlink Payment System. Payments will be made by Electronic Funds Transfer (EFT) when possible. A notice of payment will be provided to the Applicant's Agent for inclusion in the applicant's project file.

9. Hazard Mitigation Program Account

a) Immediately following a Presidential Disaster Declaration, the GAR shall provide the appropriate KyEM accountant a copy of the Governor's request for federal disaster assistance, the Executive Order, and a copy of the President's Disaster Declaration.

b) The KyEM fiscal officer shall establish separate accounts for federal and state disaster funds. These funds are accounted by Pay-In Vouchers and payment documents prepared and maintained by the Administrative Services Accountant and by project files maintained by the SHMO. The SHMO will ensure sufficient funds are budgeted for grant closeout.

c) Reporting Requirements

(1) KyEM Administrative Services shall submit a quarterly report to FEMA on program withdrawals using SF 425.

(2) KyEM Administrative Services shall submit a Financial Status Report, using SF 425, within 90 days after completion of all HMGP projects.

(3) KyEM Administrative Services shall complete quarterly PMS 272, Federal Cash Transactions Report, Status of Federal Cash, and submit it to the Department for Health and Family Services.

(4) Copies of quarterly reports shall be provided to the GAR.

(5) A separate SF 425 is required for each disaster.

10. Lost Checks

a) When a check is reported lost by an applicant, action shall be taken immediately to stop payment on the check.

b) The GAR shall request in writing through KyEM Administrative Services that the Kentucky Department of the Treasury stop payment on the check.

c) If the check has not been cashed, Treasury will send a State Treasury Stop-Payment Affidavit to the GAR. The SHMO shall send the affidavit

with a transmittal letter to the applicant who signs and returns it to the SHMO who will forward it to the GAR.

d) On receipt of the affidavit, Treasury shall reissue the check.

11. Recovery of Over Payment of Funds.

a) Every effort shall be made to avoid instances where applicants are paid more funds than can be supported by work completion, inspection, review, or audit.

b) If an excessive interim payment is discovered prior to final payment of the federal and state shares, the GAR shall withhold final payment pending corrective actions.

c) If an interim payment exceeds final payment of the federal and state shares due, the GAR shall request reimbursement of the balance from the applicant.

d) If the applicant refuses to repay an excessive interim payment, the GAR shall refer the case to the State Controller for initiation of collection efforts.

e) The GAR shall inform the SHMO and FEMA of the status of each case of over payment.

12. Cost Overruns (44 CFR 206.438 (b); 44 CFR 13.10; OMB A-87)

a) During the execution of work on an approved mitigation measure, the GAR may find that actual project costs are exceeding the approved estimates. A cost overrun is defined as an unanticipated increase in the cost of performing the specified scope of work as defined in the project/grant.

b) When Cost overruns occur, the applicant may request approval of additional funding by providing written justification (invoices, daily activity reports, progress reports, etc.) for evaluation by the SHMO and GAR.

c) All requests, documentation, and responses shall be in writing and shall become part of the applicant's project file. Applicants shall prepare a cost overrun explanation which details the actual costs and work associated with the overruns. Overruns shall be considered individually, No blanket approval of overruns shall be given.

d) The SHMO shall evaluate and prepare a recommendation for consideration by the GAR on each cost overrun. The approved scope of work on any project with a cost overrun must still be met, unless the scope of work has been modified as specified in this plan. The request shall be submitted to FEMA for review and approval. For cost overruns

which exceed federal obligated funds and which require additional federal funds, the GAR shall evaluate each cost overrun and shall submit a request with a recommendation to the Regional Administrator for a determination. The applicant's justification for additional funding and other pertinent material shall accompany the request. The Regional Administrator shall notify the GAR in writing of the determination and process a supplement, if necessary. The total amount obligated to the state will never exceed the funding limits of the Stafford Act. Any such problems or circumstances affecting project costs shall be identified through the Quarterly Progress Reports made to the SHMO

e) Cost overruns must be in compliance with 44 CFR 13.30.

f) All requests to change the scope of work must be requested before the change has begun.

XII. Open Records Procedures

A. Records of projects and funding provided under the Hazard Mitigation Grant Program to state and local governments are subject to the Kentucky Open Records Law (KRS Chapter 61).

B. A written request for information shall be reviewed by the GAR. A response shall be provided within three working days from receipt of the request.

C. Requests must be specific and in writing. Blanket requests for information shall not be honored.

D. A copy of the original request letter shall be sent to the Assistant Director immediately and the proposed response shall be forwarded as soon as possible.

E. When copies of records are requested, a written request describing the records to be copied is required. KyEM will make copies at a charge of \$.10 per page. KyEM shall not copy records that have not been inspected.

F. Original copies of records shall not be removed from the building.

G. Requests for statistical data or for information that has not been compiled shall not be honored.

XIII. Audit Requirements It is the recipient's responsibility to be aware of and comply with OMB Circular A-133 Single Audit requirements. All recipients expending in excess of \$500,000 in federal funds during a fiscal year must provide KyEM with a copy of an A-133 audit. Notice of this requirement is included in the PON2 contract. Recipient has nine months after close of fiscal year to complete and submit audit.

XIV. Prior to expiration of the nine month period a KyEM Subrecipient Monitoring Branch sends a notice to all sub-recipients reminding them of OMB Circular A-133 Single Audit requirements.

XV. The notice requests information as to if the sub-recipient was subject to an OMB Circular A-133 Audit, if there were any findings, and the estimated completion date for audits in progress.

XVI. The KyEM Subrecipient Monitoring Branch maintains a tracking report of the above information to ensure sub-recipient notification and proper follow up on audit submission is completed in a timely fashion.

XVII. The submitted audit report is reviewed by the KyEM Subrecipient Monitoring Section primarily for the following components:

- A. Schedule of Expenditures of Federal Awards,
- B. Findings, recommendations, and questioned costs noted by the independent auditor in the audit report,
- C. Inclusion of a corrective action plan for any findings noted in the audit report detailing the sub-recipients corrective action plan for cited deficiencies,
- D. Schedule of prior audit findings to determine if prior findings have been corrected or carryover to the current audit period.

XVIII. The KyEM Subrecipient Monitoring Branch will issue a report of any audit findings within six months after receipt of the audit and ensure that the sub-recipient takes appropriate timely and corrective action.

XIX. Grant Project Closeout

- A. After a final site visit has been completed and final payment has been made a project is ready for project closeout.
- B. The State project manager will examine the project file and complete the appropriate closeout forms. The package will then be submitted to the SHMO for review.
- C. The GAR will sign a Request to Close Letter that has been reviewed by both the SHMO and the KyEM Pre-Audit Section prior to submission to FEMA regarding final claim amounts.
- D. FEMA will then respond with a Final Claim Letter. This date will serve as the closeout date of the project. This is the final correspondence of the project.

XX. Grant Program Closeout When all projects resulting from a Presidential Disaster Declaration have been completed, all disbursements have been made, all documentation completed, and audits performed, the SHMO shall request, through the GAR, that the grant program be closed. The GAR shall conduct the necessary reviews of project accomplishment and submit the necessary documentation to FEMA to support the request for closeout. Records will be retained for a period of three years after the date of FEMA program closeout notification.

XXI. Plan Review This plan shall be reviewed annually to ensure compliance with applicable federal and state laws, regulations, and policies. It shall be updated as needed to reflect

regulatory and policy changes and to improve program administration. Revised plans will be submitted to FEMA for review.

Appendix 49: Example Letter of Intent (LOI)



EMERGENCY MANAGEMENT

Steve Beshear
Governor

100 Airport Road – Third Floor
Frankfort, KY 40601

BG John W. Heltzel
Director

HAZARD MITIGATION GRANT PROGRAM (HMGP) PRE-APPLICATION LETTER OF INTENT DR-1855

This pre-application supports the Federal Emergency Management Agency (FEMA) Hazard Mitigation Grant Program (HMGP). Please complete this sheet, attach completed project worksheet, and submit as directed below no later than April 15, 2010. If you have any questions or need additional information please contact Ms. Leslie Mahoney at the information presented below.

Submit packets no later than April 15, 2010 to:

Leslie Mahoney, State Hazard Mitigation Officer
Kentucky Division of Emergency Management
100 Airport Road – Third Floor
Frankfort, Kentucky 40601-6168
Email: leslie.mahoney@us.army.mil
Phone: 502-607-5768 Fax: 502-607-5740

Applicant Name:

Agency or Office:

Designated Official:

Address:

Telephone Number:

Fax Number:

Email Address:

Project Manager (Point of Contact):

Address:

Telephone Number:

Fax Number:

Email Address:

Project Type:

- ☐ Acquisition/Demolition (attach page 2)
- ☐ Acquisition/Relocation (attach page 2)
- ☐ Elevation (attach page 2)
- ☐ Drainage (attach page 3)
- ☐ Construction (attach page 3)
- ☐ Siren (attach page 4)
- ☐ Generator (attach page 5)
- ☐ Other (attach page 6)

Community NFIP Status:

- ☐ Participating Community ID #
 - ☐ In Good Standing
 - ☐ Sanctioned
- ☐ Non Participating Community
- ☐ Mapped Floodplain (FEMA)
 - ☐ Unmapped Floodplain (FEMA)
- ☐ CRS Participant -- Community Rating Number #

Does this project protect a critical facility? Yes ☐ No ☐

How many people will this project affect and protect?

Local Hazard Mitigation Plan:

1. Is your community part of a FEMA approved Hazard Mitigation Plan?
2. Does project(s) address mitigation measure(s) of the community Hazard Mitigation Plan? If so, please list how.

Signature: _____ Date: _____

KentuckyUnbridledSpirit.com
DR-1855



An Equal Opportunity Employer M/F/D

**HAZARD MITIGATION GRANT PROGRAM (HMGP)
PRE-APPLICATION NOTICE OF INTENT**

Property Acquisition//Relocation/Elevation Project Worksheet

Describe the problem your community is encountering in the location of the proposed project.

Describe the proposed solution to this problem. Please include in this description the location of your community's project. A map of the project area must also be included in pre-application packet. Identify if any of your proposed project is located in a mapped floodplain or floodway. Please provide flood zone designation type or FIRM Community Panel Number or Map.

Describe why your community has chosen to submit this project. How was the project idea initiated?

Is this property designated by FEMA as a Repetitive Loss or Severe Repetitive Loss property?

List the proposed properties to be included in this project:

Address	Owners	Floodzone	Action (acquisition, relocation, elevation)	Estimated Fair Market Value (acquisition) Estimated Cost to Relocate Structure (relocation) Estimated Cost to Elevate (elevation)
Total Estimated Cost				

Provide estimated budget for this project. Include all applicable items listed and any additional items that may be specific to your project.

Item	# of Structures	Cost per Structure	Total Cost
Estimated Fair Market Value of Structures		N/A	Total from above
Estimated Cost to Relocate Structures		N/A	Total from above
Estimated Cost to Elevate Structures		N/A	Total from above
Appraisals			
Surveys			
Closing Costs			
Asbestos Testing			
Asbestos Abatement			
Demolition			
Landfill Fees			
Renter Relocation		\$5,250	
Total Estimated Project Cost			

Provide funding sources and estimated amounts for this project. *The source of the Local Match must be explained.* (i.e., local funds, in-kind contributions of services or materials, other outside grants, etc.)

Funding Type	Funding Source	Funding Percentage	Estimated Funding Amount
Federal	HMGP	75%	
State	KyEM	12%	
Local		13%	
Total Cost		100%	

DR-1855

**HAZARD MITIGATION GRANT PROGRAM (HMGP)
PRE-APPLICATION NOTICE OF INTENT**

Drainage or Construction Project (Including Tornado Safe Rooms) Worksheet

Describe the problem your community is encountering in the location of the proposed project.

Describe the proposed solution to this problem. Please include in this description the location of your community's project. A map of the project area must also be included in pre-application packet. Identify if any of your proposed project is located in a mapped floodplain or floodway. Please provide flood zone designation type or FIRM Community Panel Number or Map.

Describe any engineering or hydrological studies that have been done that are directly related to this project.

Describe why your community has chosen to submit this project. How was the project idea initiated?

Provide estimated budget for this project. Include all applicable items listed and any additional items that may be specific to your project. Please note that the costs of any studies, design, or work completed before the approval of an official application are not eligible expenses.

Item	Cost
Estimated Cost of Engineering Study (if needed)	
Estimated Cost of Engineering Design (if needed)	
Estimated Construction Cost	
Total Estimated Project Cost	

Provide funding sources and estimated amounts for this project. *The source of the Local Match must be explained.* (i.e., local funds, in-kind contributions of services or materials, other outside grants, etc.)

Funding Type	Funding Source	Funding Percentage	Estimated Funding Amount
Federal	HMGP	75%	
State	KyEM	12%	
Local		13%	
Total Cost		100%	

**HAZARD MITIGATION GRANT PROGRAM (HMGP)
PRE-APPLICATION NOTICE OF INTENT**

Siren Project Worksheet

Describe the problem your community is encountering.

Describe the proposed solution to this problem. Please include in this description the proposed locations for the placement of the sirens. Identify if any of your proposed sites are located in a floodplain or floodway. Also, please include in this description the location of any sirens already operational in your community and the overall coverage plan your community has for warning sirens. Include a map of the complete siren plan if available.

Describe why your community has chosen to submit this project. How was the project idea initiated?

Provide estimated budget for this project. Include all applicable items listed and any additional items that may be specific to your project.

Item	# of Items	Cost per Item	Total Cost
Sirens			
Batteries			
Radios			
Poles			
Transformers			
Installation and test of sirens			
Installation of transformers and poles			
FCC License			
Estimated Total Project Cost			

Provide funding sources and estimated amounts for this project. *The source of the Local Match must be explained.* (i.e., local funds, in-kind contributions of services or materials, other outside grants, etc.)

Funding Type	Funding Source	Funding Percentage	Estimated Funding Amount
Federal	HMGP	75%	
State	KyEM	12%	
Local		13%	
Total Costs		100%	

**HAZARD MITIGATION GRANT PROGRAM (HMGP)
PRE-APPLICATION NOTICE OF INTENT**

Generator Worksheet

Describe the problem your community is encountering.

Describe the proposed solution to this problem. Please include the location of your community's project. Generators must be located at critical facilities and these critical facilities must be the beneficiaries of the generators. Critical facilities are defined as Hazardous Materials Facilities, Emergency Operation Centers, Power Facilities, Water Facilities, Sewer and Wastewater Treatment Facilities, Communications Facilities, Emergency Medical Care Facilities, Fire Protection, and Emergency Facilities. A map of the project area must also be included in pre-application packet. Identify if any of your proposed project is located in a mapped floodplain or floodway. Please provide flood zone designation type or FIRM Community Panel Number or Map.

Describe why your community has chosen to submit this project. How was the project idea initiated?

Will this project allow the facility to be fully operational in the event of a total power outage?

Yes ☐ No ☐

Provide generator specifications:

Running Load (KW)	
Starting Load (KW)	
Type of Controls (automatic, manual)	
Portable or Fixed	
Type of Fuel (gas, diesel, propane, other)	

Who determined these generator specifications and sizing for this site? Describe qualifications.

Who would take responsibility for the costs of maintaining this generator?

Provide estimated budget for this project. Include all applicable items that may be specific to your project.

Item	# of Items	Cost per Item	Total Cost
Estimated Total Project Cost			

Provide funding sources and estimated amounts for this project. ***The source of the Local Match must be explained.*** (i.e., local funds, in-kind contributions of services or materials, other outside grants, etc.)

Funding Type	Funding Source	Funding Percentage	Estimated Funding Amount
Federal	HMGP	75%	
State	KyEM	12%	
Local		13%	
Total Costs		100%	

DR-1855

Other Projects Worksheet
(Utility Lines Protective Measures, Weather Radios, Educational Campaigns, Ringdown Systems, Mitigation Planning, etc.)

Describe the proposed solution to this problem. Please include in this description the location of your community's project. A map of the project area must also be included in pre-application packet. Identify if any of your proposed project is located in a mapped floodplain or floodway. Please provide flood zone designation type or FIRM Community Panel Number or Map.

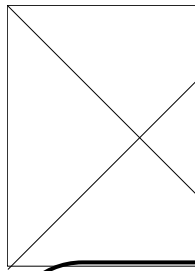
Provide estimated budget for this project. Include all applicable items that may be specific to your project.

Item	# of Items	Cost per Item	Total Cost
Estimated Total Project Cost			

Provide funding sources and estimated amounts for this project. *The source of the Local Match must be explained.* (i.e., local funds, in-kind contributions of services or materials, other outside grants, etc.)

Funding Type	Funding Source	Funding Percentage	Estimated Funding Amount
Federal	HMGP	75%	
State	KyEM	12%	
Local		13%	
Total Costs		100%	

Appendix 50: Hazard Mitigation Grant Program Application Example



Federal Emergency Management Agency
Kentucky Division of Emergency Management
Hazard Mitigation Application



Applicant _____

Project Location
(street, city, county, state, and coordinates)

Project Title (descriptive)

Estimated Project Cost (total)

THIS SECTION FOR STATE USE ONLY

FEMA- -DR-

- ☐ Standard HMGP or
- ☐ HMGP 5% Initiative
- ☐ FMA
- ☐ Other
- ☐ Initial Submission *or*
- ☐ Resubmission
- ☐ Completeness Checklist
- ☐ State 409 Plan
- ☐ Eligible Applicant

Project Type(s)

- ☐ Acquisition/Demolition
- ☐ Acquisition/Relocation
- ☐ Elevation
- ☐ Drainage/Construction
- ☐ Wind Retrofit
- ☐ Tornado
- ☐ Seismic Retrofit
- ☐ Other _____

Community NFIP Status:

- ☐ Participating Community
- ID #:
- ☐ CRS Participant
- ☐ In Good Standing
- ☐ Sanctioned

State Application ID

Date Received

State Reviewer

Reviewer Phone #

Reviewer Fax#

Reviewer Email:

Attach continuations or additional items to this page

This application supports Federal Emergency Management Agency (FEMA Region IV) *Hazard Mitigation Grant Program (HMGP)* proposals. Please complete EACH section and provide the supporting documentation requested. If you need assistance with the application, please contact your State Emergency Management Mitigation Division at (____) ____ - ____ .

A. To Fill Out This Application: complete all sections of the main application. If the project involves acquisition, elevation or engineered drainage construction projects, fill out the appropriate supplemental worksheet attachments:

- **Acquisition Worksheet:** *Acquisition Projects* only -- one worksheet per structure
- **Elevation Worksheet:** *Elevation Projects* only -- one worksheet per structure
- **Drainage Worksheet:** *Engineered Drainage Construction Projects* only

I. Applicant Information

1. Applicant (Organization) _____

2. Applicant Type

☐ State or Local Government ☐ Recognized Indian Tribe ☐ Private Non-Profit

3. County / Counties

4. State Legislative district(s) Congressional District(s)

5. Tax I.D. Number FIPS Code _____ DUNS Number _____

6. Application Point of Contact

☐ Ms. ☐ Mr. ☐ Mrs. First Name Last Name

Title

Street Address

City State Zip Code

Telephone Fax

Email Address

7. Application Prepared by: ☐ Ms. ☐ Mr. ☐ Mrs. First Name Last Name

Title Telephone Fax

8. Chief Executive Officer or Authorized Agent

☐ Ms. ☐ Mr. ☐ Mrs. First Name Last Name

Title Telephone Fax

Street Address

City State Zip Code

Email Address

NOTE: If your project is approved, work must begin within 90 days of the obligation of funds.

I. History of Hazards and Damages in the Area to be Protected

A. Overview of Past Damages:

B. Detailed Damages:

(NOTE: For building acquisition and elevation projects, provide an overview in this section only. List specific damages to each property on individual Acquisition and Elevation Worksheet attachments)

<u>Date</u>	<u>Level of Event</u>	<u>Damages</u>	<u>Indirect costs (describe)</u>
<i>[e.g. 10/7/89</i>	<i>50 year flood</i>	<i>Total of \$195,000 in damages to 16 homes in project area</i>	<i>Emergency Services Evacuation of 58 people.]</i>
<i>[e.g. 8/18/92</i>	<i>100 year flood</i>	<i>Total of \$1,895,000 in damages to 23 homes in project area</i>	<i>Emergency Services Evacuation of 108 people.]</i>

II. Project Description

Project Description / Protection Provided

Describe, in detail, the proposed project. Also, explain how the proposed project will solve the problem(s) and provide the level(s) of protection described in Section II, B.

A. Hazards to be Mitigated / Level of Protection

1. Select the type of hazards the proposed project will mitigate:

☐ Flood ☐ Wind ☐ Seismic ☐ Other (list)

Fill in the level of protection the proposed project will provide (e.g. 23 structures protected against the 100-year (1%) flood. List data in Flood Levels (10,25, 50,100...) mph winds or Mercalli Scale Earthquake (1-12)

Structures protected against the

Structures protected against the

Structures protected against the

Structures protected against the

Engineered Construction Projects Only (e.g. Drainage Improvements)

Include (attach to this page) **ALL** engineering calculations used to determine the above level of protection.

The following documents are attached (list):

Useful life of the project

III. Project Location

Fully describe the location of the proposed project.

A. Site

1. Physical Location

Describe the area and/or population affected/protected by this project; include the location (street numbers, subdivisions, city, county, and zip codes).

2. Structures Affected

Provide the number of each type of structure (listed below) in the project area. Include **all** structures in project area.

Residential properties

Businesses / commercial properties

Public buildings

Schools / hospitals / houses of worship

B. National Flood Insurance Program (NFIP) Flood Insurance Rate Map (FIRM)

☐ Attach a copy of the panel(s) from the FIRM, and, if applicable, the Floodway Map. Locate the project site and all structures to scale on the map. (FIRMs are available from your local floodplain administrator located in the planning, zoning, building, or engineering office. Maps can be ordered from the NFIP Map Service Center at 1-800-358-9616. For more information about FIRMs, visit the FEMA Website at <http://www.fema.gov/MSCL>).

☐ If the FIRM for your area is not published, please attach a copy of the Flood Hazard Boundary Map (FHBM) for your area, with the project site and structures located to scale on the map.

Using the FIRM, determine the flood zone(s) of the project site (Check all zones in the project area).

☐ VE or V 1-30

☐ AE or A 1-30

☐ AO or AH

☐ A (no base flood elevation given)

☐ B or X (shaded)

☐ C or X (unshaded)

☐ Floodway

☐ Coastal Barrier Resource Act (CBRA) Zone

(Federal regulations strictly limit Federal funding for projects in this Zone; please coordinate with your state agency before submitting an application for a CBRA Zone project)

C. City or County Map with Project Site and Photographs (check the box to indicated the attached maps)

☐ Attach a copy of a city or county scale map (large enough to show the entire project area) with the project site and structures marked on the map.

☐ USGS 1:24,000 topo map with project site marked on the map.

☐ For **acquisition** or **elevation** projects, include a copy of a subdivision plat and the Parcel Map (Tax Map, Property Identification Map, etc.) with each property in the project clearly identified on the map. .

☐ Attach overview photographs (2 copies each) for each project site. The photographs should be representative of the project area, including any relevant streams, creeks, rivers, etc. and drainage areas, which affect the project site or will be affected by the project.

Attach copies of each site photograph here

Clearly label each photo

Notes:

Scope of Work / Budget

Provide details of all costs of the project. This information is used in a Benefit-Cost Analysis so reasonable cost estimates are essential. Do not include project administrative costs in the budget.

A. Materials

Item	# of Structures	Cost per Structure	Total Cost

B. Labor (Include equipment costs -- please indicate all "soft" or in-kind matches)

Description	# of Structures	Cost per Structure	Total Cost

C. Fees Paid Include any other costs associated with the project

Description of Task	# of Structures	Cost per Structure	Total Cost

Total Estimated Project Cost \$

D. Funding Sources (round to the nearest dollar)

The maximum Federal share for HMGP projects is 75%. The other 25% can be made up of State and Local funds as well as in-kind services. HMGP funds may be packaged with other Federal funds, but other Federal funds (except for Federal funds which lose their Federal identity at the State level – such as CDBG, ARS, HOME) may not be used for the State or Local match.

Estimated FEMA Share \$_____ % Of Total

Non-Federal Share

Estimated Local Share \$ % Of Total
(Include In-Kind Value)

List Funding Sources

Estimated State Share \$ — % Of Total
List Funding Sources

Estimated Other Agency Share \$ % Of Total

Identify Other Non-Federal Agency

Other Non-FEMA Federal Fund \$ **Do Not Include In Total**

Identify Other Federal Agency

E. Project Milestones

List all major timeline milestones for the project:

Milestone Number of Days to Complete

[e.g. Demolition of 6 structures and removal of debris 14 days]

V. Alternative Actions

This application cannot be reviewed if this section is incomplete.

List **two feasible** alternative projects to mitigate the hazards addressed in the proposed project. (NOTE: One of the alternatives is the "No Action Alternative" in section A).

A. No Action Alternative

Discuss the impacts on the project area if no action is taken.

B. Other Feasible Alternative

Discuss a feasible alternative to the proposed project. This could be an entirely different mitigation measure or a significant modification to the design of the proposed project. Include scope of work, engineering details (if applicable), estimated budget, and the impacts of this alternative proposal.

1. Feasible Alternative Project Description and Scope of Work

Describe, in detail, the alternative project. Also, Explain how the alternative project will solve the problem(s) / provide protection from the hazard(s).

A. Materials

Item	# of Structures	Cost per Structure	Total Cost
_____	_____	_____	_____

B. Labor (Include equipment costs -- please indicate all "soft" or in-kind matches)

Description	# of Structures	Cost per Structure	Total Cost
_____	_____	_____	_____

C. Fees Paid Include any other costs associated with the project

Description of Task	# of Structures	Cost per Structure	Total Cost
_____	_____	_____	_____

Total Estimated Project Cost \$

2. Feasible Alternative Project Location (if applicable)

- ☐ Attach a map or diagram showing the alternative site in relation to the proposed project site.
- ☐ 2 photographs of alternative site.

Attach copies of each photograph here

Clearly label each photo.

Alternative Actions (Continued)

C. Alternative Project Funding Sources (round to nearest dollar). The maximum Federal share for HMGP projects is 75%. The remaining 25% can be State and Local funds as well as in-kind services. HMGP funds may be packaged with other Federal funds, but other Federal funds (except for Federal funds which lose their Federal identity at the State level – such as CDBG, ARS, HOME,) may not be used for the State or Local match.

Estimated FEMA Share	\$	% Of Total
Non-Federal Share		
Estimated Local Share (Include In-Kind Value)	\$	% Of Total
List Funding Sources		
Estimated State Share	\$	% Of Total
List Funding Sources		
Estimated Other Agency Share	\$	% Of Total
List Other Non-Federal Agency		
Other Non-FEMA Federal Funds	\$	Do Not Include In Total
List Other Federal Agency		
Total Estimated Alternative Project Cost \$		

D. Impacts of Feasible Alternative Project

Discuss the impact of this alternative proposal on the project area. Include comments on these issues: Environmental Justice; Endangered Species; Wetlands; Hydrology (Upstream and Downstream Impacts); Floodplain/ Floodway; Historic Issues; Hazardous Materials.

VI. Environmental Documents

The applicant should provide the following environmental documentation to FEMA before starting construction activity or jeopardize project funding. The state of Kentucky will actually do this work for you. The state uses a clearinghouse where your application will be taken and reviewed by the different agencies that are concerned with environmental and historical issues.

**The Following Types Of Projects
Do Not Require Environmental Documentation:**

- Development of Mitigation Plans
- Inspection and monitoring activities
- Studies involving only staff time and funding

Other projects require certain environmental documentation depending upon the project type and its potential effects on the physical, biological and built environment. The various types of projects and their required environmental documentation follow:

Warning/Communication Systems And Wind Retrofit Projects

- Coordination from the State Historic Preservation Officer (SHPO) regarding cultural resources (archeological and historical). ***Provide the SHPO with:***
 - a description of the project referencing structure/site addresses
 - a map of sufficient scale and detail that shows the project site and surrounding project area (Area of Potential Effects)
 - several original photographs of the project site and adjacent area/structures
- * See also - additional documentation section

Acquisition/Demolition And Elevation Projects

Residential Sites Require

- Coordination from the State Historic Preservation Officer (SHPO) regarding cultural resources (archeological and historical). ***Provide the SHPO with:***
 - a description of the project referencing structure/site addresses
 - a map of sufficient scale and detail that shows the project site and surrounding project area (Area of Potential Effects)
 - several original photographs of the project site and adjacent area/structures

Commercial/Industrial Sites also require:

- Coordination from the State Environmental Protection Agency (or equivalent) regarding hazardous waste and toxic materials
- * See also - additional documentation section

Acquisition/Relocation Projects (Residential Only)
And
Stormwater Management Projects
(Road/Bridge/Culvert Repair, Detention Ponds And Drainage)

Coordination from the following Federal and State agencies:

- State Historic Preservation Officer (SHPO) regarding cultural resources (archeological and historical). ***Provide the SHPO with:***
 - several original photographs of the project site and adjacent area/structures
- State Environmental Protection Agency (or equivalent) regarding required permits for erosion and sediment control, stormwater management, water and air quality
- State Environmental Protection Agency (or equivalent) regarding hazardous and toxic materials
- U.S. Army Corp of Engineers District regarding Individual (404 Wetlands) Permit or approval under an existing Nationwide Permit
- U.S. Fish and Wildlife Service regarding Federal Threatened and Endangered Species
- State Fish and Game Agency regarding fish and wildlife
- State Natural Heritage Agency regarding State Threatened and Endangered Species

Provide the following documentation to each agency listed above:

- a description of the project referencing structure/site addresses.
- a map of sufficient scale and detail that shows the project site and surrounding project area (Area of Potential Effects)

* See also - additional documentation section

Additional Documentation

- *If the project involves five or more acres of land* – provide a National Pollutant Discharge Elimination System (NPDES) permit from the U.S. Environmental Protection Agency
- *If the project is located outside of town/city limits* - provide documentation from the USDA Natural Resource Conservation Service (Prime, Unique or other Important Farmlands)
- *If the project is located in a coastal area* - provide letters from the:
 - State Coastal Management Agency (Coastal Zone Management Act)
 - U.S. Fish and Wildlife Service (Coastal Barrier Resources Act and Coastal Barrier Improvement Act)
 - U.S. Dept. of Commerce National Marine Fisheries Service (Commercial fishing and breeding grounds)
- *If the project will affect any low-income or minority groups in the project area* – provide applicable Environmental Justice information (census, economics, housing and employment)

FEMA Can Provide Additional Environmental Technical Assistance. Your State Hazard Mitigation Officer Can Provide FEMA Environmental Points Of Contact.

Additional Documentation and/or Site Visits May Be Required For Final Environmental Review

VII Maintenance Agreement

NOTE: Applicants whose proposed project involves the retrofit or modification of existing public property or whose proposed project would result in the public ownership or management of property, structures, or facilities, *must* sign the following agreement.

(NOTE: those applicants whose project involves the retrofitting, elevation, or other modification to private property where the ownership will remain private after project completion DO NOT have to complete this form.)

_____(City, Town, County), State of Kentucky, hereby agrees that if it receives any Federal aid as a result of the attached project application, it will accept responsibility, at its own expense if necessary, for the **routine** maintenance of any real property, structures, or facilities acquired or constructed as a result of such Federal aid. Routine maintenance shall include, but not be limited to, such responsibilities as keeping vacant land clear of debris, garbage, and vermin; keeping stream channels, culverts, and storm drains clear of obstructions and debris; and keeping detention ponds free of debris, trees, and woody growth.

The purpose of this agreement is to make clear the Subgrantee's maintenance responsibilities following project award and to show the Subgrantee's acceptance of these responsibilities. It does not replace, supercede, or add to any other maintenance responsibilities imposed by Federal, State and Local laws or regulations and which are in force on the date of project award.

Signed by _____(printed or typed *name of signing official*) the duly authorized _____(title) of _____(name of applicant), certified this _____ day of _____, _____.
(Month) (Year)

Signature of Chief Executive Officer/date:

VIII Acquisition and Elevation Certification Statement

NOTE: Applicants who's proposed project involves elevation of one or more residential structures or relocation or acquisition and demolition of such structures must complete the following Certification:

I, _____(print name of chief executive officer), (title) of _____(town, city, or county organization) certify that that all owners of property listed in this project has been contacted and has voluntarily expressed a willingness to participate in the proposed elevation, relocation, or acquisition of his or her property.

Additionally, the _____(town, city, or county organization) understands that any and all property acquired under the Hazard Mitigation Grant Program will be maintained by the applicant as open space. All property acquired in this project will be governed by the following guidelines from the Code of Federal Regulations, Section 206.434(d):

(d) Property acquisition and relocation requirements. A project involving property acquisition or the relocation of structures and individuals is eligible for assistance only if the applicant enters an agreement with the FEMA Regional Director that provides assurances that:

1. The following restrictive covenants shall be conveyed in the deed to any property acquired, accepted, or from which structures are removed (hereafter called in section (d) the property):

(i) The property shall be dedicated and maintained in perpetuity for uses compatible with open space, recreational, or wetlands management practices; and

(ii) No new building structure(s) will be built on the property except as indicated below:

(A) A public facility that is open on all sides and functionally related to a designated open space or recreational use;

(B) A rest room; or

(C) A structure that is compatible with open space, recreational, or wetlands management usage and proper floodplain management policies and practices, which the Director approves in writing before the construction of the structure begins.

(iii) After completion of the project, no application for additional disaster assistance will be made for any purpose with respect to the property to any Federal entity or source, and no Federal entity or source will provide such assistance.

2. In general, allowable open space, recreational, and wetland management uses include parks for outdoor recreational activities, nature reserves, cultivation, grazing, camping (except where adequate warning time is not available to allow evacuation), temporary storage in the open of wheeled vehicles which are easily movable (except mobile homes), unimproved, pervious parking lots, and buffer zones.

3. Any structures built on the property according to paragraph (d)(1) of this section, shall be flood proofed or elevated to the Base Flood Elevation plus one foot of freeboard.

Any other use of acquired structures or properties must have prior approval by both the State and Federal Emergency Management Agencies' Directors.

In addition, I have consulted with the US Army Corp of Engineers to ensure that NO flood damage reduction levees are under consideration for the project area described under this application. Land acquired for open space purposes under the HMGP will be restricted in perpetuity to open space use and will be unavailable for construction of flood damage reduction levees. In consultation with USACE, the local government has addressed and considered the potential future use of these lands for the construction of flood damage reduction levees, and has chosen to proceed with acquisition of permanent open space land use.

Certified this _____ day of _____ (Month), _____ (Year)
By _____ (Chief Executive Officer)

IX. Executive Officer Certification of Application

The undersigned does hereby submit this application for financial assistance in accordance with the Federal Emergency Agency's *Hazard Mitigation Grant Program* and the State Hazard Mitigation Administration plan and Certifies that the applicant (i.e. organization, city, or county) will fulfill all requirements of the program as contained in applicable Federal regulations and program guidelines, and that all information contained herein is true and correct to the best of our knowledge.

I certify that the information and data submitted in support of this application is, to the best of my knowledge and belief, true, accurate, complete, and correct.

the duly authorized
(Print or type name of Chief Community Official)

For
(Title) (Applicant)

Signature _____ Date _____

X. DESIGNATION OF APPLICANT'S AGENT RESOLUTION

Be it resolved by _____ (*Governing Body*) of _____ (*Public Entity*) that _____* (*Name of Incumbent*)
(*Official Position*) OR

_____* (*Name of Incumbent*), Governor's Authorized Representative, is hereby authorized to execute for and in behalf of _____, a public entity established under the laws of the State of Kentucky, this application and to file it in the appropriate State office for the purpose of obtaining certain Federal financial assistance under the Disaster Relief Act (Public Law 288, 93rd Congress) or otherwise available from the President Disaster Relief Fund.

That _____ a public entity established under the laws of the State of Kentucky, hereby authorizes its agent to provide to the State and to the Federal Emergency Management Agency (FEMA) for all matters pertaining to such Federal disaster assistance the assurance and agreements printed on the reverse side hereof.

Passed and approved this _____ day of _____, 200____.

(*Name and Title*)

(*Name and Title*)

(*Name and Title*)

CERTIFICATION

I, _____, duly appointed and _____ (*Title*) of _____ (*Public Entity*), do hereby certify that the above is a true and correct copy of a resolution passed and approved by the _____ (*Governing Body*) of _____ (*Public Entity*).

On the _____ day of _____, 200____

Date:

(*Official Position*)

(*Signature*)

* *Name of incumbent need not be provided in those cases where the governing body of the public entity desires to authorize any incumbent of the designated official position to represent it.*

APPLICANT ASSURANCES

The applicant hereby assures and certifies that he will comply with the FEMA regulations, policies, guidelines, and requirements including OMB's Circulars No. A-95 and A-102, and FMC 74-4, as they relate to the application, acceptance and use of Federal funds for this Federally assisted project. Also, the Applicant gives assurance and certifies with respect to and as a condition for the grant that:

1. It possesses legal authority to apply for the grant, and to finance and construct the proposed facilities; that a resolution, motion or similar action has been duly adopted or passed as an official act of the applicant's governing body, authorizing the filing of the application, including all understandings and assurance contained therein, and directing and authorizing the person identified as the official representative of the applicant to act in connection with the application and to provide such additional information as may be required.
2. It will comply with the provisions of: Executive Order 11988, relating to Floodplain Management and Executive Order 11990, relating to Protection of Wetlands.
3. It will have sufficient funds available to meet the non-Federal share of the cost for construction projects. Sufficient funds will be available when construction is completed to assure effective operation and maintenance of the facility for the purpose constructed.
4. It will not enter into a construction contract(s) for the project or undertake other activities until the conditions of the grant program(s) have been met.
5. It will provide and maintain competent and adequate architectural-al engineering supervision and inspection at the construction site to insure that the completed work conforms with the approved plans and specifications; that it will furnish progress reports and such other information as the Federal grant or agency may
6. It will operate and maintain the facility in accordance with the minimum standards as may be required or prescribed by the applicable Federal, State and local agencies for the maintenance and operation of such facilities.
7. It will give the grantor agency and the Comptroller General, through any authorized representative, access to and the right to examine all records, books, papers, or documents related to the grant.
8. It will require the facility to be designed to comply with the "American Standard Specifications for Making Buildings and Facilities Accessible to, and Usable by the Physically Handicapped," Number A117.1-1961, as modified (41 CFR 101-17-7031). The applicant will be responsible for conducting inspections to insure compliance with these specifications by the contractor.

It will cause work on the project to be commenced within a reasonable time after receipt of notification from the approving Federal agency that funds have been approved and will see that work on the project will be prosecuted to completion with reasonable diligence.

9. It will not dispose of or encumber its title or other interests in the site and facilities during the period of Federal interest or while the Government holds bonds, whichever is the longer.
10. It agrees to comply with Section 311. P.L. 93-288 and with Title VI of the Civil Rights act of 1964 (P.L. 83-352) and in accordance with Title VI of the Act, no person in the United States shall, on the ground of race, color, or national origin, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the applicant receives Federal financial as-assistance and will immediately take any measures necessary to effectuate this agreement. If any real property or structure is provided or improved with the aid of Federal financial assistance extended to the Applicant, this assurance shall obligate the Applicant, or in the case of any transfer of such property, any transferee, for the period during which the real property or structure is used for a purpose for which the Federal financial assistance is extended or for another purpose involving the provision of similar services or benefits.

11. It will establish safeguards to prohibit employees from using their positions for a purpose that is or gives the appearance of being motivated by a desire for private gain for themselves or others, particularly those with whom they have family, business, or other ties.
 12. It will comply with the requirements of Title II and Title III of the Uniform Relocation Assistance and Real Property Acquisitions Act of 1970 (P.L. 91-646), which provides for fair and equitable treatment of persons displaced as a result of Federal and Federally assisted programs.
 13. It will comply with all requirements imposed by the Federal grantor agency concerning special requirements of law, program requirements, and other administrative requirements approved in accordance with OMB Circular A-102, P.L. 93-288 as amended, and applicable Federal Regulations.
- It will comply with the provisions of the Hatch Act which limit the political activity of employees.
14. It will comply with the minimum wage and maximum hours provisions of the Federal Fair Labor Standards Act, as they apply to hospital and educational institution employees of State and local governments.
 15. (To the best of his knowledge and belief) the disaster relief work described on each Federal Emergency Management Agency (FEMA) Project Application for which Federal Financial assistance is requested is eligible in accordance with the criteria contained in 44 Code of Federal Regulations, Part 205, and applicable FEMA Handbooks.
 16. The emergency or disaster relief work therein described for which Federal Assistance is requested hereunder does not or will not duplicate benefits received for the same loss from another source.
 17. It will (1) provide without cost to the United States all lands, easements and rights-of-way necessary for accomplishment of the approved work; (2) hold and save the United States free from damages due to the approved work or Federal funding.
 18. This assurance is given in consideration of and for the purpose of obtaining any and all Federal grants, loans, reimbursements, advances, contracts, property, discounts of other Federal financial assistance extended after the date hereof to the Applicant by FEMA that such Federal Financial assistance will be extended in reliance on the representations and agreements made in this assurance and that the United States shall have the right to seek judicial enforcement of this assurance. This assurance is binding on the applicant, its successors, transferees, and assignees, and the person or persons whose signatures appear on the reverse as authorized to sign this assurance on behalf of the applicant.
 19. It will comply with the flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973, Public Law 93-234, 87 Stat. 975, approved December 31, 1973. Section 102(a) requires, on and after March 2, 1975, the purchase of flood insurance in communities where such insurance is available as a condition for the receipt of any Federal financial assistance for construction or acquisition purposes for use in any area that has been identified by the Director, Federal Emergency Management Agency as an area having special flood hazards. The phrase "Federal financial assistance" includes any form of loan, grant, guaranty, insurance payment, rebate, subsidy, disaster assistance loan or grant, or any other form of direct or indirect Federal assistance.
 20. It will comply with the insurance requirements of Section 314, P.L. 93-288, to obtain and maintain any other insurance as may be reasonable, adequate, and necessary to protect against further loss to any property which was replaced, restored, repaired, or constructed with this assurance.
 21. It will defer funding of any projects involving flexible funding until FEMA makes a favorable environmental clearance, if this is required.
 22. It will assist the Federal grantor agency in its compliance with Section 106 of the National Historic Preservation Act of 1966, as amended, (16 U.S.C. 470), Executive Order 11593, and the Archeological and Historic Preservation Act of 1966 (16 U.S.C. 469a-1 et seq.) by (a) consulting with the State Historic Preservation Officer on the conduct of investigations, as necessary, to identify properties listed in or eligible for inclusion in the National Register of Historic places that are subject to adverse effects (see 36 CFR Part 800.8) by the activity, and notifying the Federal grantor agency of the existence of any such proper-ties, and

by (b) complying with all requirements established by the Federal grantor agency to avoid or mitigate adverse effects upon such properties.

23. It will for any repairs or construction financed herewith, comply with applicable standards of safety, decency and sanitation and in conformity with applicable codes, specifications and standards; and, will evaluate the natural hazards in areas in which the proceeds of the grant or loan are to be used and take appropriate action to mitigate such hazards, including safe land use and construction practices.

Signature, Chief Executive Officer, Date

STATE ASSURANCES

The State agrees to take any necessary action within State capabilities to require compliance with these assurances and agreements by the applicant or to assume responsibility to the Federal government for any deficiencies not resolved to the satisfaction of the Regional Director.

Property Acquisition Worksheet Attachment: Acquisition Projects Only

Prepare a separate Property Acquisition Worksheet for each individual property to be acquired. Assign a unique ID number to each property in the project and list it in the ID box to the right on each page.
(NOTE: Participation in an acquisition project must be voluntary on the part of the property owner.)

Property ID # _____

A. Property Site Information: Attach a copy of the Property Tax Card

Name: Owner Tax I.D.:

Damaged Address:

City: County: State: Zip:

Phone: Day: Evening:

Directions:

Longitude: Latitude: Parcel #:

Courier Code: USPS Bar Code:

Legal Description of Property:

Other Address (where you can be reached):

City: State: Zip: Other Phone No.:

Email:

B. Structure Information

1. Date of Construction _____ Repetitive Loss Structure: Yes ☐ No ☐

2. *Building Type*: (check one)

- ☐ 1-story w/o basement ☐ 2-story w/o basement ☐ Split-level w/o basement
☐ Split level with basement ☐ 1-story with basement ☐ 2-story with basement
☐ Mobile Home ☐ Other _____

3. *Building Use* (check all that apply)

- ☐ Primary Residence ☐ Rental Property ☐ Secondary Residence ☐ Commercial Property
☐ Public Building ☐ House of Worship ☐ Multi-Family ☐ Other

4. *Construction Type*

- ☐ Wood Frame ☐ Concrete Block ☐ Other

5. Total Square Footage of Principal Structure square feet

6. Replace Cost of Principal Structure: \$ / square foot

7. Are there accessory or out buildings on the property? ☐ Yes ☐ No If Yes, ☐ Attach ☐ Detached

Please describe (location, type of structure, age, value):

NFIP Policy Number: Insurance Policy Provider:

Project Cost Information:

1. Pre-Disaster Fair Market Value \$ Source:
2. Estimated Demolition Cost \$
3. Estimated Appraisal Cost \$
4. Estimated Closing Cost \$
5. Is the property currently occupied by renter(s)? ☐ Yes ☐ No--If No, skip # 6
6. Rental Relocation Assistance \$ x (number of families occupying property) = \$
7. Total Cost to Acquire Property (sum of items 1 through 6) \$

Benefit Cost Analysis Performed: Yes ☐ No ☐ Benefit/Cost Ratio:

D. Structure Information (Flood):

NOTE: Data for Section E and Section F of this worksheet are not required IF: (1) the structure is located in a designated mapped NFIP Floodplain AND (2) was *substantially damaged in the most recent disaster. Attach a *Substantial Damage Certificate* from the local flood plain manager if the property was substantially damaged. [* See local flood ordinance]

1. Base Flood Elevation of Building Site (from B above): _____
2. Certified Lowest Floor Elevation of Principal Structure: _____, NOTE: Provide NFIP Elevation Certificate or Certified data from Licensed Land Surveyor.

Depth of water in the structure inches for day(s) and

3. Level of event causing flooding: year flood. (10, 25, 50, 100, 500)

E. Flood Hazard Determination: (check applicable)

Base Flood Elevation of Building Site:

- ☐ AE or A 1-30 ☐ AO or AH ☐ A (no base flood elevation given)
☐ VE or V 1-30 ☐ B or X (shaded) ☐ C or X (unshaded)
☐ Floodway ☐ Other (describe) _____
☐ CBRA Zone (Federal regulations strictly limit Federal funding for projects in this Zone; please coordinate with your state agency before submitting an application for a CBRA Zone project)

☐ **Substantial Damage Certificate Attached**

F. History of Hazards / Damages to the Structure being acquired

List historic damages to the structure. Include damage from declared disaster events AND all other hazard events. (NOTE: *This data* is not required if the property is (1) located in the Floodway; OR (2) was substantially damaged in the most recent disaster and is located in 100-year Floodplain. A *Substantial Damage Certificate must be attached*.)

Date	Level of Event (10, 20, 50 yr. flood)	Description of Damages Depth of Flooding	Cost of Repairs/Replacement
------	--	---	--------------------------------

Property
ID #

G. Include color photographs for this property. Show front view, side view, and rear view. Label with address and Property ID # and attach to this worksheet.

Attach copies of front view here

Clearly label each photo

Attach copies of back view here

Clearly label each photo

Attach copies of side view here

Clearly label each photo

Elevation Worksheet Attachment: Elevation Projects Only

NOTE: Prepare a separate Elevation Worksheet for each structure. Assign a unique ID number to each structure in the project and list it in the ID box to the right on each page.

Property ID # _____

A. Property Site Information: Attach a copy of the Property Tax Card

1. Street Address (including city, county, and zip code) AND property Legal Description:

2. Base Flood Elevation of Building Site:

Flood Zone Designation:

- ☐ AE or A 1-30 ☐ AO or AH ☐ A (no base flood elevation given)
☐ VE or V 1-30 ☐ B or X (shaded) ☐ C or X (unshaded)
☐ Floodway ☐ Other (describe) _____
☐ CBRA Zone (Federal regulations strictly limit Federal funding for projects in this Zone; please coordinate with your state agency before submitting an application for a CBRA Zone project)

B. Structure Information:

1. Date of Construction Total Square Footage of Principal Structure

2. *Building Type:* (check one)

- ☐ 1-story w/o basement ☐ 2-story w/o basement ☐ Split-level w/o basement
☐ Split level with basement ☐ 1-story with basement ☐ 2-story with basement
☐ Mobile Home ☐ Other

3. *Building Use* (check all that apply)

- ☐ Primary Residence ☐ Rental Property ☐ Secondary Residence ☐ Commercial Property
☐ Public Building ☐ House of Worship ☐ Multi-Family ☐ Other _____

4. *Construction Type*

- ☐ Wood Frame ☐ Concrete Block ☐ Other

5. *Foundation Type*

- ☐ Slab on Grade ☐ Crawl Space ☐ Other

6. Building Structure Elevation/Foundation Information

Current lowest floor elevation: ft/tenths above sea level. *Source . Attach ☐

Proposed lowest floor elevation: ft/tenths above sea level (recommended minimum one foot above Base Flood Elevation).

Proposed elevated foundation type: ☐ Pier/Columns ☐ Pilings ☐ Foundation Wall
☐ Other:

***Elevation Certificate; Licensed Land Surveyor; City/County Engineer/Surveyor, etc. Attach document.**

NOTE: Upon completion of the elevation of each structure, a new *National Flood Insurance Program Elevation Certificate* must be completed and provided to the community. Compliance with State and local codes must be demonstrated prior to final release of funds.

NOTE: A flood insurance policy must be secured and maintained for the elevated building structure. For information on flood insurance contact your local Licensed Property Insurance Agent for visit the National Flood Insurance Program at <http://www.fema.gov/nfip/>.

C. Elevation Cost Information:

Materials

Item	Quantity	Unit Cost	Total
------	----------	-----------	-------

Labor

Description of Activity	Hours	Rate	Total
-------------------------	-------	------	-------

Fees (Include any other costs associated with the project)

Description of Task	Hours	Rate	Total
---------------------	-------	------	-------

Estimated Total Cost of Elevate Structure \$

D. History of Hazards / Damages to the Structure being elevated

List historic damages to the structure. Include damage from declared disaster events AND all other hazard events.

Date	Level of Event (10, 20, 50 yr. flood)	Description of Damages Depth of Flooding	Cost of Repairs/Replacement
------	--	---	--------------------------------

Property
ID #

E. Include color photographs for this property. Show front view, side view, and rear view. Label with address and Property ID # and attach to this worksheet.

Attach copies of front view here

Clearly label each photo

Attach copies of back view here

Clearly label each photo

Attach copies of side view here

Clearly label each photo

Drainage Project Worksheet Attachment – Drainage Projects Only

A. Site Plan

A site plan, with alignment drawings, that includes the location, plan view and cross-section of cuts, fills and structures are required. Include the type, and measurements of all pipes, culverts, ditches, swales and detention/retention basins and ponds. Send the following engineering as appropriate:

- ☐ Calculations used to determine the sizes of any culverts in the project area (drainage area, amount of flow, slope of culvert, invert elevations).
- ☐ Calculations used to determine the sizes of any ditches and swales in the project area (drainage area, amount of flow, slope and depth in the ditch).
- ☐ Calculations used to determine the sizes of any detention/retention basins or ponds (drainage area, amount of flow, stage-storage, and stage-discharge curves).

B. Environmental Impacts

Both upstream and downstream impacts need to be considered and discussed in the NEPA documents and coordination letters.

C. Letter of Map Revision (LOMR)

A letter of Map Revision may be needed on this project. Any changes to the Flood Insurance Rate maps (FIRMs) need to be reflected on the flood maps, which is accomplished through the LOMR process. The construction of this project may lower the 100-year flood elevation and thus, possibly lower the flood insurance rates for structures in the project area.

D. Project Scheduling

Note below any special circumstances regarding project scheduling.

Appendix 51: Benefit Cost Analysis (BCA) Worksheet

Hazard Mitigation Grant Program

Data Documentation Template

Full Data Module - Acquisition

SCOPE OF PROJECT	
NAME	
COMMUNITY	
DATE	
PROJECT NAME	
PROJECT DESCRIPTION	

1. COST ESTIMATION INFORMATION		
Project Useful Life	Mitigation Project Cost	Annual Project Maintenance Cost

100 years		
-----------	--	--

2. RIVERINE ELEVATION AND DISCHARGE DATA				
Base Flood Elevation (BFE)	Streambed Elevation (ft.)	Flood Insurance Study Effective Date	FIRM Panel Number	Flood Source Name

Return Period	Elevation Before Mitigation (ft.)	Discharge Before Mitigation (cfs)
10 year		
50 year		
100 year		
500 year		

3. STRUCTURE INFORMATION				
Total Size of Building (ft ²)	Value of Building (Building Replacement Value) (\$/ft ²)	Building Type	Foundation Type	Building Contents (\$; 50% of Building Replacement Value)
One-Time Displacement Costs	Loss of Rent (\$/month)	Utilities or Contents in the Crawlspace (\$)	First Floor Elevation (FFE)	Year Built

Appendix 52: Project Tracking Worksheet

Grant	Project #	Type	SubGrantee	Project Description	Project Cost	BCA	Ecclearinghouse Approved	Submitted	NEMIS/eGRANTS Entered To FEMA	Submitted to FEMA	RFI Sent Rcvd
DR	1746-004	R	City of Elizabethtown	Drainage	\$821,000.00		X	X	X	X	
DR	1746-005	R	City of Elizabethtown	Acquisition	\$203,510.00		X	X	X	X	
DR	1746-006	I	City of Corydon	Generator	\$10,000.00	-	X	X	X	X	
DR	1746-007	R	Louisville Harrods Creek	Soil Stabilization	\$561,609.00		X	X	X	X	X
DR	1746-008		KyEM	Management Cost		-	X	X	X	X	
DR	1746-010	I	Shelby County	Emergency Alert Radio	\$24,020.00	-	X	X	X	X	
DR	1746-013	R	LFUCG Cabot/Shandon	Acquisition	\$1,034,625.00		X	X	X	X	X
DR	1757-001	I	City of Lewisport	Generator	\$38,294.52	-	X	1/13/2010	X	X	
DR	1757-002	I	Shelby County	Sirens	\$27,858.00	-	X	X	X	X	
DR	1757-003		KyEM	Management Cost		-	X	X	X	X	
DR	1757-004	R	Versailles Dan Court	Acquisition	\$600,586.00	1.05	X	X	X	X	
LPDM	2008		Town of Martin	Acquisition		1.23					
LPDM	2008		City of Cumberland	Bridge							
LPDM	2008		UK	Warning System	\$266,667.00						
DR	1802-001	I	Shelby County	Generators	\$91,420.00	-	9/23/2009	X	X	X	7/21/2009
DR	1802-002	I	Hardin County	Ringdown System	\$44,000.00	-	9/23/2009	X	X	X	8/31/2009
DR	1802-003	P	Louisville/Jefferson County	1st Floor Elevation	\$25,675.00		10/1/2009	10/27/2009	X	X	8/12/2009
DR	1802-005	I	Oldham County	Generator	\$68,000.00	-	X	10/27/2009	X	X	8/12/2009
DR	1802-006	I	Crittenden County Hospital	Generator	\$96,750.00	-	X	X	X	X	8/21/2009
DR	1802-007	I	Hartford Water Treatment Plant	Generators	\$163,000.00	-	X	X	X	X	8/12/2009
DR	1802-008	R	City of Hartford	Drainage - Barnes Street	\$70,266.80	1.16	9/22/2009	11/4/2009	X	X	8/12/2009
DR	1802-010	R	Daviess County	Drainage - Wyndcrest	\$310,000.00	2.68	9/24/2009		X	X	9/1/2009
DR	1802-011	R	Daviess County	Elevation - Crooked Creek	\$188,994.00	2.33	9/22/2009	11/4/2009	X	X	9/1/2009
DR	1802-012	I	Trimble County/Bedford Fire Station	Sirens	\$14,610.00	-	11/6/2009	12/8/2009	X	X	12/7/2009
DR	1802-013	R	Muldragh	Safe Room	\$2,021,644.00	12.2					
DR	1802-014	R	Breckinridge County	Drainage - West Marks Ridge	\$86,975.00	1.42	X	X			X
DR	1802	R	LFUCG	Acquisition - Lafayette	\$1,699,945.00	3.05					
DR	1818-002	P	Purchase ADD	Plan	\$81,598.00	-	X	10/9/2009	X	X	8/31/2009
DR	1818-003	I	Morton's Gap	Generator - EOC	\$16,677.00	-	11/10/2009	12/2/2009	X	X	12/7/2009

Grant	Project #	Type	SubGrantee	Project Description	Project Cost	BCA	Eclearinghouse Submitted Approved		NEMIS/eGRANTS Entered To FEMA		Submitted to FEMA	RFI Sent Rcvd	
DR	1818-004	I	White Plains	Generator - City Hall	\$21,011.00	-	11/13/2009		X		11/23/2009		
DR	1818-005	I	Muhlenberg County	Generator - EOC	\$100,000.00	-	10/26/2009	11/17/2009	X		11/23/2009	X	X
DR	1818-006	I	Campbellsville	Generator - Fire Dept	\$26,372.00	-			X		11/19/2009	X	X
DR	1818-007	I	Ohio County	Generator - Court House	\$112,940.00	-	10/29/2009	12/7/2009	X	X	3/4/2010	X	X
DR	1818-008	R	Radcliff	Acquisition - (2) Liberty St	\$215,400.00	11.3	12/28/2009		X	X	12/7/2009	X	X
DR	1818-009	I	Madisonville, Hopkins County	Generator - Government Center	\$77,550.00	-					12/7/2009		
DR	1818-010	I	Ohio County	Generator -EOC	\$29,700.00	-	10/26/2009	12/7/2009	X	X	11/23/2009	X	X
DR	1818-011	I	Hopkinsville	Generator (3)	\$224,502.00	-			X	X	12/16/2009		
DR	1818-012	R	Radcliff	Detention Basin - Quiggins Happy Valley	\$3,890,136.00	1.2	X	9/22/2009	X		12/15/2009		
DR	1818-013	I	Marshall County	Generator -EOC/Court House	\$57,762.00		x				2/22/2010		
DR	1818-014	R	Breckinridge County	Drainage- Shot pouch	\$291,440.00	2.03	11/12/2009		1/11/2010		2/25/2010		
DR	1818-015	I	Taylor Mill	Generator - Fire Dept	\$68,215.00	-					2/25/2010		
DR	1818-016	I	Daviess County	Generator - Greenwood Cem	\$3,750.00	-	X					X	
DR	1818-017	I	Bullitt County EMA	Generator -Hubbard Lane	\$19,000.00	-	11/19/2009		X			X	
DR	1818-018	I	Murray State University	Generator - EOC	\$93,000.00	-					3/11/2010		
DR	1818-019	I	Bullitt County EMA	Generator - Court House	\$54,330.00	-	X		X		3/11/2010	X	
DR	1818-020	I	Murray State University	Generator - 2 MSU/WKMS	\$72,735.00	-	x		x		3/11/2010		
DR	1818-021	I	Hodgenville	Generator - City Hall/Civic Center	\$82,695.00	-	x		x		3/23/2010		
DR	1818-022	I	Mayfield Fire Station #1	Generator	\$99,066.00	-					3/23/2010		
DR	1818-023	R	Paducah Water	Safe Room	\$140,000.00	2.64	X		X		3/25/2010	X	
DR	1818-024	I	Pike County	Generator - Court House	\$264,767.00	-	11/10/2009		x		3/23/2010		
DR	1818-025	I	Woodford County	Generator - EOC	\$48,975.00	-	x		x		3/25/2010		
DR	1818-026	I	Beaver Dam	Generator - City Hall	\$25,500.00	-	x (GRADD)	x (GRADD)	x	x	3/25/2010		
DR	1818-027	R	Grayson County	Drainage: Bloomington	\$344,815.00	1.55	x				3/23/2010		
DR	1818-028	R	Grayson County	Drainage: Pine Knob	\$260,963.00	3.47	x				3/23/2010		
DR	1818-029	I	Burgin	Generator - Fire Dept/City Hall	\$13,655.00	-	x			x	3/31/2010		
DR	1818-030	R	Mercer County - Fiscal Court	Safe Room: Mercer Mobile Home Park	\$896,461.10	6.89	x				3/31/2010		
DR	1818-031	I	Calhoun	Generator	\$35,198.00	-	x (GRADD)	x (GRADD)	x	x	4/6/2010		
DR	1818-032	I	Clay City	Generator - City Hall/EOC	\$25,200.00	-	x (GRADD)	x (GRADD)	x	x	4/6/2010		
DR	1818-033	I	LaRue County	Generator - 911 Center	\$11,362.00	-	x				4/7/2010		
DR	1818-034	I	LaRue County	Generator - Court House	\$45,725.00	-	x				4/7/2010		
DR	1818-035	I	Radcliff	Generator - City Hall	\$45,741.00	-	4/6/2010		x	x	4/8/2010		

Grant	Project #	Type	SubGrantee	Project Description	Project Cost	BCA	Eclearinghouse Submitted Approved		NEMIS/eGRANTS Entered To FEMA		Submitted to FEMA	RFI Sent Rcvd	
DR	1818-036	I	Clarkson	Generator - EOC	\$19,624.00	-	4/11/2010		x	x	4/13/2010		
DR	1818-037	I	Park Hills	Generator - EOC	\$66,500.00	-	4/11/2010		x	x	4/13/2010		
DR	1818-038	I	Providence	Generator - Fire/EMS/Police	\$60,540.00	-	GRADD	GRADD	x	x	4/13/2010		
DR	1818-039	I	Campbell County Fire District #1	Generator - Station 51	\$22,580.00	-	4/6/2010	x	x	x	4/13/2010		
DR	1818	R	Clark Energy	Undergrounding	\$496,140.00	1.78							
DR	1818	R	Hillview	Safe Room	\$186,878.00	7.31							
DR	1818	R	Bardstown	Undergrounding	\$380,869.00								
DR	1818	R	Nicholas County	Safe Room	\$334,893.00	1.82	11/24/2009						
DR	1818	R	Elizabethtown	Acquisition - 1219 Johnston Road	\$147,300.00	11.7	X		X			X	
DR	1818	R	Breckinridge County	Elevation - Bridge	\$500,000.00								
DR	1818	R	Boyd County	Acquistion - Hatchery Road	\$1,200,000.00								
DR	1818	R	Calvert City	Acquisition	\$375,000.00	1.01							
DR	1818	R	Crofton	2 Safe Rooms	\$600,825.00	4.98							
DR	1818	R	Cumberland	Culvert upgrade	\$100,778.00	9.02							
DR	1818	R	Danville	Safe Room	\$495,885.00	3.34							
DR	1818	R	Danville	Acquisition	\$225,000.00	0.22							
DR	1818	R	Fayette County	Drainage - UK	\$8,000,000.00								
DR	1818	R	Fleming County	Bridge at School	\$160,000.00	1.01							
DR	1818	R	Fleming County	Elizaville Road Slippage	\$28,175.00	1.03							
DR	1818	R	Fleming County	Bridge at BOE	\$40,000.00	1.92							
DR	1818	R	Franklin County	Acquistion - Cedar Run	\$650,000.00								
DR	1818	R	Grayson County	Drainage: Shull Road	\$250,000.00								
DR	1818	R	Grayson County	Drainage: Bear Creek	\$300,000.00								
DR	1818	R	Harrodsburg	Safe Room:	\$866,461.00	4.69							
DR	1818	R	Hopkinsville	Detention Basin - Boxwood	\$1,142,750.00	1.34							
DR	1818	R	Hopkinsville	Drainage - Bahama Dr	\$116,000.00								
DR	1818	R	Hopkinsville	Acquisition - Bahama Drive	\$116,000.00								
DR	1818	R	Hopkinsville	Drainage - Westwood	\$11,000,000.00								
DR	1818	R	Jefferson County	Utility Replacement Jewish Hospital & St Mary's	\$267,500.00								
DR	1818	R	Jefferson County	UofL Health Science (1)	\$200,000.00								
DR	1818	R	Jefferson County	UofL Health Science (2)	\$1,100,000.00								
DR	1818	R	Jefferson County	UofL Chemistry (1)	\$250,000.00								

Grant	Project #	Type	SubGrantee	Project Description	Project Cost	BCA	Ecclearinghouse Submitted Approved		NEMIS/eGRANTS Entered To FEMA		Submitted to FEMA	RFI Sent Rcvd	
DR	1818	R	Jefferson County	UofL Chemistry (2)	\$20,000.00								
DR	1818	R	Jefferson County	UofL School of Law	\$100,000.00								
DR	1818	R	LFUCG	Acquistion - 283 Lafayette	\$198,000.00								
DR	1818	R	Livingston County	Elevation Road	\$90,000.00								
DR	1818	R	Louisville	Acquisition: Blue Creek	\$1,057,000.00								
DR	1818	R	Louisville	Acquisition: Transylvania Beach	\$600,000.00								
DR	1818	R	Louisville MSD	Drainage - Aluma	\$4,667,888.59								
DR	1818	R	Marshall County	Safe Room	\$1,535,450.00	6.42							
DR	1818	R	Mercer County	Safe Room: Anderson Dean Park	\$906,461.00	6.26							
DR	1818	R	Metcalfe County	Safe Room: Fairgrounds	\$53,135.00	10.3							
DR	1818	R	Metcalfe County	Safe Room: N. Metcalfe	\$53,135.00	8.17							
DR	1818	R	Metcalfe County	Safe Room: Sulphur Well	\$53,135.00	8.17							
DR	1818	R	Metcalfe County	Safe Room: Summer Shade	\$53,135.00	8.17							
DR	1818	R	Metcalfe County	Safe Room: S. Edmonton	\$53,135.00	10.3							
DR	1818	R	Metcalfe County	Safe Room: Country Way Estates	\$53,135.00	10.3							
DR	1818	R	Metcalfe County	Safe Room: Knob Lick	\$53,135.00	10.3							
DR	1818	R	Metcalfe County	Safe Room: VFW	\$53,135.00	10.3							
DR	1818	R	Metcalfe County	Safe Room: Fair Grounds #2	\$53,135.00	10.3							
DR	1818	R	Metcalfe County	Safe Room: Timmy circle	\$53,135.00	10.3							
DR	1818	R	Metcalfe County	Safe Room	\$500,000.00								
DR	1818	R	Ohio County	Safe Room	\$120,000.00	10.8							
DR	1818	R	Owsley County	Drainage	\$128,000.00								
DR	1818	R	Paris	Utility Relocation	\$32,026.00	7.77							
DR	1818	R	Pendleton County	Drainage	\$118,500.00								
DR	1818	R	Pennyrile RECC	Utility Relocation:SR800	\$471,250.00	1.15							
DR	1818	R	Pennyrile RECC	Utility Relocation:SR1348	\$490,100.00	3.15							
DR	1818	R	Pennyrile RECC	Utility Relocation: South Road	\$297,675.00	10.7							
DR	1818	R	Pennyrile RECC	Utility Relocation:SR778	\$107,184.00	1.29							
DR	1818	R	Pennyrile RECC	Utility Relocation: SR106	\$219,240.00	1.04							
DR	1818	R	Robinson Forest	Landslide - Stabilization	\$186,000.00								
DR	1818	R	Sharpsburg	Safe Room	\$314,762.00	3.28							
DR	1818	R	Spencer County	Pump Station	\$133,200.00								
DR	1818	R	Taylorsville	Drainage	\$432,000.00								
DR	1818	R	Warren County	Basil Griffin Lake Storm Water	\$310,000.00								

Grant	Project #	Type	SubGrantee	Project Description	Project Cost	BCA	Ecclearinghouse Submitted Approved		NEMIS/eGRANTS Entered To FEMA		Submitted to FEMA	RFI Sent Rcvd	
				Control									
DR	1818	R	Whitley County	Washout	\$295,500.00								
DR	1818	R	Woodford County	Drainage - Mack Street	\$75,000.00								
DR	1818	I	Alexandria	Generator	\$42,270.00	-							
DR	1818	I	Ballard County	Generator - EOC	\$62,500.00	-							
DR	1818	I	Barren Coutny	Generator - Government Building	\$106,546.17	-							
DR	1818	I	Caldwell County	Generator -EOC	\$32,680.00	-							
DR	1818	I	Campbell County Fire District #1	Generator - Station 52	\$19,400.00	-							
DR	1818	I	Campbell County Fire District #1	Generator - Station 53	\$20,940.00	-							
DR	1818	I	Carlisle County	Generator	\$120,000.00	-							
DR	1818	I	Crescent Springs	Generator - 801 Buttermilk Pike	\$30,051.00	-							
DR	1818	I	Crofton	Generator - 101 East Mill St.	\$19,396.00	-							
DR	1818	I	Eddyville	Generator - City Hall	\$23,082.00	-							
DR	1818	I	Eddyville	Generator - Court House	\$32,481.00	-							
DR	1818	I	Fulton	Generator - Fulton Emergency	\$28,412.00	-							
DR	1818	I	Fulton County	Generator	\$163,810.00	-							
DR	1818	I	Graymoor Devondale	Generator - City Hall/Police	\$20,880.00	-							
DR	1818	I	Hart County	Generator	\$49,500.00	-							
DR	1818	I	Hart County	Ringdown System	\$171,000.00	-							
DR	1818	I	Hawesville	Generator - Fire/EOC	\$14,275.00	-							
DR	1818	I	Hillview	Generator - City Hall & Police Dept	\$45,167.00	-							
DR	1818	I	Kenton County	Generator - Communications	\$8,250.00	-							
DR	1818	I	Lebanon Junction	Generator - EOC	\$24,700.00	-							
DR	1818	I	LFUCG	Generator - Fire Station #1	\$129,500.00	-							
DR	1818	I	Livermore	Generator - City Hall	\$32,007.00	-							
DR	1818	I	Louisville	Generator - Fire Station	\$72,200.00	-							
DR	1818	I	Louisville	Generator - Fire Station	\$72,200.00	-							
DR	1818	I	Louisville	Generator - Fire Station	\$72,200.00	-							
DR	1818	I	Louisville	Generator - Fire Station	\$72,200.00	-							
DR	1818	I	Louisville	Generator - Fire Station	\$72,200.00	-							
DR	1818	I	Louisville	Generator - Fire Station	\$72,200.00	-							
DR	1818	I	Louisville	Generator - Fire Station	\$72,200.00	-							

Grant	Project #	Type	SubGrantee	Project Description	Project Cost	BCA	Ecclearinghouse Submitted Approved	NEMIS/eGRANTS Entered To FEMA	Submitted to FEMA	RFI Sent Rcvd
DR	1818	I	Louisville	Generator - Fire Station	\$72,200.00	-				
DR	1818	I	Louisville	Generator - Police Station	\$72,200.00	-				
DR	1818	I	Louisville	Generator - Police Station	\$72,200.00	-				
DR	1818	I	Louisville	Generator - Police Station	\$72,200.00	-				
DR	1818	I	Ludlow	Generator - Police Dept	\$44,063.00	-				
DR	1818	I	Lyon County	Generator - Court House	\$50,886.00	-				
DR	1818	I	Meade County	Generator -EOC	\$84,530.00	-				
DR	1818	I	Metcalfe County	Weather Radio	\$174,000.00	-				
DR	1818	I	Northern Kentucky University	Generator - EOC	\$120,000.00	-				
DR	1818	I	Oak Grove	Generator -City Hall	\$50,000.00	-				
DR	1818	I	Richmond	Generator - Fire Station	\$21,230.00	-				
DR	1818	I	Richmond	Generator - Fire Station	\$24,043.00	-				
DR	1818	I	Richmond	Generator - Fire Station	\$24,018.00	-				
DR	1818	I	Robertson County	Generator - EOC	\$22,680.00	-				
DR	1818	I	Russellville	Generator - City Hall	\$40,680.00	-				X
DR	1818	I	Trimble County	Generator - EOC	\$38,168.00	-				
DR	1818	I	Villa Hills	Generator - City Hall	\$9,286.00	-				
DR	1818	I	Warren County	Generator - Court House	\$84,400.00	-				
DR	1818	I	Webster County	Generator - Court House	\$159,500.00	-				
DR	1818	I	Winchester	Generator - Fire/EMS/Police	\$60,825.00	-				
DR	1818	P	LFCUG	Plan	\$145,000.00	-				
DR	1841	R	Allen County	Safe Room	\$50,000.00					
DR	1841	R	Allen County	Safe Room	\$50,000.00					
DR	1841	R	Allen County	Safe Room	\$50,000.00					
DR	1841	R	Allen County	Safe Room	\$50,000.00					
DR	1841	R	Allen County	Safe Room	\$50,000.00					
DR	1841	R	Allen County	Safe Room	\$50,000.00					
DR	1841	R	Allen County	Safe Room	\$50,000.00					
DR	1841	R	Allen County	Safe Room	\$50,000.00					
DR	1841	R	Allen County	Safe Room	\$50,000.00					
DR	1841	R	Carlisle County	Berm	\$21,500.00					
DR	1841	R	Crittenden County	Drainage	\$40,485.00					
DR	1841	R	Crittenden County	Drainage	\$20,155.00					

Grant	Project #	Type	SubGrantee	Project Description	Project Cost	BCA	Eclearinghouse Submitted Approved		NEMIS/eGRANTS Entered To FEMA		Submitted to FEMA	RFI Sent Rcvd	
DR	1841	R	Jackson County	Drainage: Dick Hollow	\$10,810.00								
DR	1841	R	Jackson County	Drainage: Dry Branch	\$10,685.00								
DR	1841	R	Jackson County	Drainage: Ledger Fork	\$11,670.00								
DR	1841	R	Jackson County	Drainage: Merida Smith Rd	\$12,400.00								
DR	1841	R	Jackson County	Drainage: Quail Road	\$11,670.00								
DR	1841	R	Jackson County	Drainage: Red Davidson Rd	\$10,484.00								
DR	1841	R	Kenton County	Acquisition	\$4,166,500.00								
DR	1841	R	Ohio County	Safe Room	\$930,000.00								
DR	1841	R	Owsley County	Soil Stabilization	\$19,000.00								
DR	1841	R	Pike County	Acquisition	\$1,675,206.00								
DR	1841	R	Pike County	Elevation	\$199,680.00								
DR	1841	R	Somerset	Safe Room	\$180,000.00								
DR	1841	R	Vine Grove	Safe Room	\$895,000.00								
DR	1841	R	Warren County	Safe Room	\$255,200.00								
DR	1841	I	Ballard County	Generator	\$47,000.00	-							
DR	1841	I	Barlow	Generator	\$55,983.00	-							
DR	1841	I	Beattyville	Generator	\$212,000.00	-							
DR	1841	I	Crittenden County	Generator	\$70,000.00	-							
DR	1841	I	Crittenden County	Generator	\$120,000.00	-							
DR	1841	I	Hardin, City of	Generator	\$78,130.00	-							
DR	1841	I	Hickman	Generator	\$47,938.00	-							
DR	1841	I	Pikeville	Siren	\$203,404.00	-							
DR	1841	I	Pikeville	Generator	\$46,950.00	-							
DR	1841	I	Salem	Generator	\$75,861.00	-							
DR	1841	I	Salem	Generator	\$23,744.00	-							
DR	1841	I	Trigg County	Generator	\$67,536.10	-							
LPDM	2009-001		City of Taylorsville		\$750,000.00								
LPDM	2009		Cumberland	Lift Stations Project									
PDM	2010-001	P	Kentucky State University	Planning	\$136,804.70	-							
PDM	2010-002	R	Spencer County	Elevations	\$133,200.00	1.06							
PDM	2010-003		KyEM	Mgmt Costs	\$20,250.00	-							

Appendix 53: Federal Funding Resources

GRANT NAME	AGENCY	PURPOSE	HAZARD MITIGATION APPLICATION	CONTACT INFO
Community Assistance Program State Support Services Element	Homeland Security	To ensure that communities participating in the National Flood Insurance Program (NFIP) are achieving flood loss reduction measures consistent with program direction. The CAP-SSSE is intended to identify, prevent and resolve floodplain management issues in participating communities before they develop into problems requiring enforcement action.	Provides funding to States to provide technical assistance to communities in the National Flood Insurance Program (NFIP) and to evaluate community performance in implementing NFIP floodplain management activities.	Department of Homeland Security, Federal Emergency Management Agency (FEMA), c/o 245 Murray Lane - Bldg. #410, Washington, DC 20523. Telephone 800-621-FEMA(3363). http://www.fema.gov/government/grant/government.shtm#4

GRANT NAME	AGENCY	PURPOSE	HAZARD MITIGATION APPLICATION	CONTACT INFO
Emergency Management Performance Grants (EMPG)	Homeland Security	To assist the development, maintenance, and improvement of State and local emergency management capabilities, which are key components of a comprehensive national emergency management system for disasters and emergencies that may result from natural disasters or accidental or man-caused events.	EMPG provides the support that State and local governments need to achieve measurable results in key functional areas of emergency management: 1) Laws and Authorities; 2) Hazard Identification and Risk Assessment; 3) Hazard Management; 4) Resource Management; 5) Planning; 6) Direction, Control, and Coordination; 7) Communications and Warning; 8) Operations and Procedures; 9) Logistics and Facilities; 10) Training; 11) Exercises; 12) Public Education and Information; and 13) Finance and Administration	Department of Homeland Security, Federal Emergency Management Agency (FEMA), c/o 245 Murray Lane - Bldg. #410, Washington, DC 20523. Telephone 800-621-FEMA(3363). http://www.fema.gov/government/grant/government.shtm#4
Flood Mitigation Assistance Program	FEMA	To help States and communities plan and carry out activities designed to reduce the risk of flood damage to	The program provides planning, project and technical assistance grants for mitigation activities that are	Director, Program Support Division, Mitigation Directorate, FEMA, 500 C Street, S.W., Washington, DC 20472. Telephone:

GRANT NAME	AGENCY	PURPOSE	HAZARD MITIGATION APPLICATION	CONTACT INFO
		structures insurable under the NFIP.	technically feasible and cost effective.	202.646.4621 http://www.fema.gov/mit/
Hazard Mitigation Grant Program (HMGP)	FEMA	To prevent future losses of lives and property due to disasters; to implement State or local hazard mitigation plans; to enable mitigation measures to be implemented during immediate recovery from a disaster; and to provide funding for previously identified mitigation measures to benefit the disaster area.	Project grants can be funded for such activities as acquisition, relocation, elevation, and improvements to facilities and properties to withstand future disasters.	Director, Program Support Division, Mitigation Directorate, FEMA, 500 C Street, S.W., Washington, DC 20472. Telephone: 202.646.4621. http://www.fema.gov/government/grant/hmgp/index.shtm
Map Modernization Management Support	FEMA	The purpose of the MMMS program is to provide, through a Cooperative Agreement, a means to ensure that MMMS Partners can support the Map Modernization effort through activities that do not directly result in production of a new or	Provides funding to supplement, not supplant, ongoing flood hazard mapping management efforts by the local, regional, or State agencies.	Federal Emergency Management Agency (Region IV)

GRANT NAME	AGENCY	PURPOSE	HAZARD MITIGATION APPLICATION	CONTACT INFO
		revised flood hazard map. These support activities include administration and management activities.		
National Dam Safety Program	FEMA	To provide vital support for the improvement of the state dam safety programs that regulates most of the 79,500 dams in the United States. To encourage research on the existing dams and their history. To help train dam safety staff and inspectors on how to properly assess dams and prevent dam failure.	Provides financial assistance to the states for strengthening their dam safety programs through grant assistance	http://www.fema.gov/plan/prevent/damfailure/ndsp.shtm

GRANT NAME	AGENCY	PURPOSE	HAZARD MITIGATION APPLICATION	CONTACT INFO
National Earthquakes Hazards Reduction Program	FEMA	The NEHRP's premise is that while earthquakes may be inevitable, earthquake-related damages are not. Activities of the program include basic and applied research; technology development & transfer; and training, education, & advocacy for seismic risk reduction measures.	FEMA administers a program of grants and technical assistance to States to increase awareness of earthquake hazards, foster plans, and implement mitigation actions to reduce seismic vulnerability.	FEMA, Mitigation Division FEMA Region IV Suite 270 3003 Chamblee-Tucker Rd. Atlanta, GA 30341 (770) 220-5200 http://www.fema.gov/plan/prevent/earthquake/nehpr.shtm
National Flood Insurance Program	Homeland Security	To enable persons to purchase insurance against physical damage to or loss of buildings and/or contents therein caused by floods, mudslide (i.e., mudflow), or flood-related erosion, thereby reducing Federal disaster assistance payments, and to promote wise floodplain management practices in the Nation's flood-prone and mudflow-prone areas.	Enables property owners in participating communities to purchase insurance as a protection against flood losses in exchange for State and community floodplain management regulations that reduce future flood damages. (States, localities, and individuals)	Department of Homeland Security, Federal Emergency Management Agency (FEMA), c/o 245 Murray Lane - Bldg. #410, Washington, DC 20523. Telephone: 800-621-FEMA(3363). http://www.fema.gov/government/grant/government.shtm#4

GRANT NAME	AGENCY	PURPOSE	HAZARD MITIGATION APPLICATION	CONTACT INFO
Pre-Disaster Mitigation Program	FEMA	The Pre-Disaster Mitigation (PDM) program provides funds to states, territories, Indian tribal governments, communities, and universities for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event. Funding these plans and projects reduces overall risks to the population and structures, while also reducing reliance on funding from actual disaster declarations.	Provides funds for hazard mitigation planning and the implementation of mitigation projects prior to a disaster event.	FEMA, Mitigation Division FEMA Region IV Suite 270 3003 Chamblee-Tucker Rd. Atlanta, GA 30341 (770) 220-5200 http://www.fema.gov/government/grant/pdm/index.shtml
Repetitive Flood Claims Program	FEMA	Provides funding to States and communities to reduce or eliminate the long-term risk of flood damage to structures insured under the NFIP that have had one or more claims for flood damages, and that cannot meet the requirements of the Flood Mitigation Assistance (FMA) program for either	Up to \$10 million is available annually for FEMA to provide RFC funds to assist States and communities reduce flood damages to insured properties that have had one or more claims to the National Flood Insurance Program (NFIP).	FEMA, Mitigation Division FEMA Region IV Suite 270 3003 Chamblee-Tucker Rd. Atlanta, GA 30341 (770) 220-5200 http://www.fema.gov/government/grant/pdm/index.shtml

GRANT NAME	AGENCY	PURPOSE	HAZARD MITIGATION APPLICATION	CONTACT INFO
		cost share or capacity to manage the activities.		
Severe Repetitive Loss Program	FEMA	Provides funding to reduce or eliminate the long-term risk of flood damage to severe repetitive loss (SRL) structures insured under the National Flood Insurance Program (NFIP).	Eligible flood mitigation project activities include Floodproofing (historical properties only); Relocation; Elevation; Acquisition; Mitigation reconstruction (demolition rebuild); and Minor physical localized flood control projects.	FEMA, Mitigation Division FEMA Region IV Suite 270 3003 Chamblee-Tucker Rd. Atlanta, GA 30341 (770) 220-5200 http://www.fema.gov/government/grant/pdm/index.shtml

GRANT NAME	AGENCY	PURPOSE	HAZARD MITIGATION APPLICATION	CONTACT INFO
Economic Adjustment Assistance	Department of Commerce, (Economic Development Administration)	To address the needs of distressed communities experiencing adverse economic changes that may occur suddenly or over time, and generally result from industrial or corporate restructuring, new Federal laws or requirements, reduction in defense expenditures, depletion of natural resources, or natural disaster.	Project grants can be in response to natural disasters including improvements and reconstruction of public facilities.	Director, Office of Economic Adjustment, Department of Defense, 400 Army Navy Drive, Suite 200, Arlington, VA 22202-4704. Telephone: (703) 604-6020. E-mail: oeafeedback@wso.whs.mil.

Appendix 54: State Funding Resources

Funding Program	Purpose	Contact
Appalachian Regional Commission (ARC): Kentucky Governor's Office for Local Government	A federal-state economic development program restricted to a 51-county area of eastern and south-central Kentucky. Appalachian Regional Commission funds are most often used for physical infrastructure projects but also may support education, workforce development, leadership and civic building, and affordable/accessible health care.	Peggy Satterly Department for Local Government 1024 Capital Center Drive Suite 340 Frankfort, KY 40601 (800) 346-5606 Email: peggy.satterly@ky.gov
State Flood Control Matching Grant Program: Kentucky Governor's Office for Local Government	State bond funds available as grants to cities, counties, special districts and area development districts. The program is coordinated by the Flood Control Advisory Commission. Funds may be used to help meet the cost-share match requirements associated with Corps of Engineers, Federal Emergency Management Agency (FEMA) and Natural Resources Conservation Service (NRCS) flood-control programs.	Mike Hale Department for Local Government 1024 Capital Center Drive Suite 340 Frankfort, KY 40601 (800) 346-5606 Email: mike.hale@ky.gov

<p>Area Development Fund: Kentucky Governor's Office for Local Government</p>	<p>The Area Development Fund (ADF) is a state-funded program that provides financial support for capital projects. Local governments are struggling to provide the services and facilities needed to ensure a high quality of life for residents. These state-allocated dollars allow communities to engage in project activities that they may not otherwise afford. Activities that can be funded with ADF dollars include: construction, reconstruction, renovation, and maintenance of buildings and other improvements to real estate; acquisition of real property; major equipment purchases; industrial site development; installation of water, gas, sewer, and electrical lines to public facilities and industrial sites; solid waste management or disposal systems needed to comply with law, and architectural, engineering and legal fees in connection with such projects; and eligible project costs incurred within the previous five years may be retroactively funded. There is no maximum project amount or local match requirement.</p>	<p>Jamie Mangeot Department for Local Government 1024 Capital Center Drive Suite 340 Frankfort, KY 40601 (800) 346-5606 Email: jamie.mangeot@ky.gov</p>
<p>Community Development Block Grant (CDBG): Kentucky Small Cities Program</p>	<p>This program makes federal funds available to cities and counties in the form of state grants for community development. Funds are designated for separate program areas. All activities must meet at least one of three national objectives: benefit low to moderate income persons; prevention or elimination of slums or blight; or meeting particularly urgent community development needs. Eligible applicants are all cities and counties except "entitlement jurisdictions" which may receive similar federal funds directly. These include Ashland, Covington, Henderson, Hopkinsville, Owensboro, Fayette County, and Louisville plus some satellite Jefferson County communities.</p>	<p>Myralee Smith-Cowley Department for Local Government 1024 Capital Center Drive Suite 340 Frankfort, KY 40601 (800) 346-5606 Email: myraleesmith.cowley@ky.gov</p>

<p>CDBG Small Cities: Housing and Community Projects: Kentucky Governor's Office for Local Government</p>	<p>Funds are designated for projects that will generally enhance the community. Various activities are eligible; typical examples of funded projects include construction of senior citizens centers, community centers and small infrastructure projects. Projects should primarily benefit low to moderate-income persons. Maximum grant amount \$500,000.</p>	<p>Donna Grimes Department for Local Government 1024 Capital Center Drive Suite 340 Frankfort, KY 40601 (800) 346-5606 Email: donna.grimes@ky.gov</p>
<p>Land and Water Conservation Fund (LWCF) KY Governor's Office for Local Government</p>	<p>Provides federal grant funds to acquire land for outdoor recreation and to develop or renovate public outdoor recreation facilities. Cities and counties are eligible. Maximum grant amount \$75,000.</p>	<p>Jodie McDonald Department for Local Government 1024 Capital Center Drive Suite 340 Frankfort, KY 40601 (800) 346-5606 Email: jodie.mcdonald@ky.gov</p>

<p>Drinking Water State Revolving Loan Fund (DWSRF): Kentucky Infrastructure Authority</p>	<p>EPA awards grants to states to capitalize their Drinking Water State Revolving Loan Fund (DWSRF) programs. States use a portion of their capitalization grants to set up a revolving fund from which loans are provided to eligible public water utilities (publicly- and privately-owned) to finance the costs of infrastructure projects. States rank projects and offer loans to utilities based on a priority ranking system. Priority is given to eligible projects that: (1) address the most serious risk to human health; (2) are necessary to ensure compliance with the requirements of the Safe Drinking Water Act; and, (3) assist systems most in need, on a per household basis, according to state-determined affordability criteria. States may also use up to 31 percent of their capitalization grants to fund set-aside activities that help to prevent contamination problems of surface and ground water drinking water supplies, as well as enhance water system management through source water protection, capacity development, and operator certification programs.</p>	<p>Sandy Williams Kentucky Infrastructure Authority 375 Versailles Road Frankfort, KY 40601 (502) 573-0260 Email: sandy.williams@ky.gov</p>
<p>Wastewater Revolving Fund - Revolving Loan Program : Kentucky Infrastructure Authority (KIA)</p>	<p>Must be for wastewater treatment facilities. Project must be On Kentucky Division of Water project priority list. If necessary, 201 Facilities Plan must be updated to correspond to project. Applicant must be a governmental agency. The project must be economically feasible. The beneficiary of the project must be the general public. The project can be for any type of infrastructure including water or wastewater facilities.</p>	<p>Sandy Williams Kentucky Infrastructure Authority 375 Versailles Road Frankfort, KY 40601 (502) 573-0260 Email: sandy.williams@ky.gov</p>

Infrastructure Revolving Loan Fund: Kentucky Infrastructure Authority	Applicant must be a governmental agency. The project must be economically feasible. The beneficiary of the project must be the general public. The project can be for any type of infrastructure including water or wastewater facilities.	Sandy Williams Kentucky Infrastructure Authority 375 Versailles Road Frankfort, KY 40601 (502) 573-0260 Email: sandy.williams@ky.gov
Environmental Justice Collaborative Problem-Solving Grant Program	In 2003, the Office of Environmental Justice (OEJ) initiated the first Environmental Justice Collaborative Problem-Solving (CPS) Grant Program. The purpose of the program is to provide financial assistance to affected local community-based organizations who wish to engage in constructive and collaborative problem-solving by utilizing tools developed by EPA and others to find viable solutions for their community's environmental and/or public health concerns.	Office of Environmental Justice Director: Barry E. Hill U.S. Environmental Protection Agency Mail Code: 2201A 1200 Pennsylvania Ave. NW Washington D.C. 20460-0001 (800) 962-6215
EPA Special Appropriation Grants	Each year, U.S. Environmental Protection Agency (EPA) receives a budget through an appropriations bill created by U.S. Congress. Since 1996 Kentucky communities have received grant funding for wastewater and drinking water infrastructure projects. EPA refers to these projects as Special Appropriations Projects (SPAPs). EPA's Region 4 has delegated the administration of Kentucky's projects to the Division of Water.	Kentucky Division of Water Maleva Chamberlin 14 Reily Road Frankfort, KY 40601 (502) 564-3410 Email: maleva.chamberlain@ky.gov

Kentucky League of Cities (KLC)	The Financial Services Department of KLC provides tax-exempt financing to Kentucky cities. By taking advantage of economies of scale through tax-exempt bond pools, the Financial Services Department provides access to low interest rate loans with low to no closing costs. Examples include: Water & Sewer Systems, Community Centers, Park Projects, Natural Gas Projects, Fire Trucks, Police Cruisers, and Computer Equipment.	Kentucky League Of Cities 101 East Vine St. Suite 600 Lexington, KY 40507 1-800-876-4552 www.klc.org/index.asp
Nonpoint Source Pollution Control Grant	Grants are available for watershed restoration projects and watershed implementation plan development as well as other nonpoint source (NPS) pollution control projects to help mitigate or prevent runoff pollution.	U.S. Environmental Protection Agency Mail Code: 2201A 1200 Pennsylvania Ave. NW Washington D.C. 20460-0001 (800) 962-6215
Kentucky Division of Abandoned Mine Lands	Program is authorized pursuant to PL95-87 and KRS 350 to mitigate the hazards caused by abandoned coal mines. Division funds contracts for reclamation of on-ground mine hazards and executes Memoranda of Agreement w/ local entities to fund waterlines into areas where past mining has contaminated the groundwater. Projects focus on mitigating hazards to: 1) public health and safety, and 2) the environment.	Division of Abandoned Mine Lands 2521 Lawrenceburg Road Frankfort, KY 40601 Phone: 502-564-2141 ext 157 Fax: 502-564-6544 E-mail: Ben.Enzweiler@ky.gov
Kentucky Watersheds: Emergency Conservation Program	(ECP) provides financial assistance to farmers and ranchers for the rehabilitation of farmlands damaged by floods, hurricanes, or other natural disasters. ECP also provides funds for carrying out emergency water conservation measures during periods of severe drought.	Kentucky Watersheds Division of Water 14 Reilly Road Frankfort, KY 40601 Phone: 502-564-3410 Fax: 502-564-0111 E-mail: water@ky.gov

Kentucky Watersheds: Flood Hazard Mitigation and Riverine Ecosystem Restoration Program (FEMA Disaster Prevention and Relief)	Informally known as Challenge 21, this watershed-based program focuses on identifying sustainable solutions to flooding problems by examining nonstructural solutions in flood-prone areas, while retaining traditional measures where appropriate. The program will create a framework for more effective federal coordination of flood programs and will create partnerships with communities to develop solutions to flooding problems. Eligible projects will meet the dual purpose of flood hazard mitigation and riverine ecosystem restoration. Projects might include the relocation of threatened structures, conservation or restoration of wetlands and natural floodwater storage areas and planning for responses to potential future floods.	Kentucky Watersheds Division of Water 14 Reilly Road Frankfort, KY 40601 Phone: 502-564-3410 Fax: 502-564-0111 E-mail: water@ky.gov
Kentucky Watersheds: Water Quality Cooperative Agreements	These EPA grants are provided to help states, Indian tribes, interstate agencies, and other public or nonprofit organizations develop, implement, and demonstrate innovative approaches relating to the causes, effects, extent, prevention, reduction, and elimination of water pollution. This includes watershed approaches for combined sewer overflow, sanitary sewer overflows, and storm water discharge problems, pretreatment and sludge (biosolids) program activities, decentralized systems, and alternative ways to measure the effectiveness of point source programs. The estimate of funds available for fiscal year 2003 includes \$20 million that has been requested for a new Watershed Initiative (WSI) program. Details for that program are currently being developed. If funds are appropriated for this program separate guidelines will be developed for the submittal, review, and approval of WSI projects.	Kentucky Watersheds Division of Water 14 Reilly Road Frankfort, KY 40601 Phone: 502-564-3410 Fax: 502-564-0111 E-mail: water@ky.gov

KY Division of Conservation Equipment Loans	Provides loans to Kentucky's conservation districts for heavy and specialized conservation equipment. The equipment is used for the application of conservation and best management practices throughout the state. Through loan/lease agreements with local contractors and farmers, the districts ensure that this equipment is available at the local level to perform conservation work.	Kentucky Division of Conservation 375 Versailles Road Frankfort, KY 40601 Phone: 502-573-3080 Fax: 502-573-1692 E-mail: Steve.Coleman@ky.gov
Kentucky Transportation Cabinet Office of Rural and Secondary Roads: Rural Secondary Program	Funded by 22.2 percent of the Motor Fuel Tax receipts. The funds are allocated to the 120 counties on a fifths formula: 1/5 equally, 1/5 rural road mileage, 1/5 rural population, 1/5 miles, and 2/5 rural land area. Money assigned to a county is not transferable to another county. Projects are developed by recommendations of Transportation Cabinet officials, county fiscal courts as required by KRS 177.330, and the general public.	Kentucky Transportation Cabinet Office of Rural and Secondary Roads 200 Mero Street, 6th Floor Frankfort, Kentucky 40622 (502) 564-2060 (502) 564-6615 Fax
Kentucky Transportation Cabinet Office of Rural and Secondary Roads: County Road Aid Co-op Program	Funded by 18.3 percent of the Motor Fuel Tax receipts. The funds are allocated to the 120 counties based on the fifths formula. County road funds are under the direct control of the county fiscal courts, which are responsible for maintaining all county roads within their respective counties.	Kentucky Transportation Cabinet Office of Rural and Secondary Roads 200 Mero Street, 6th Floor Frankfort, Kentucky 40622 (502) 564-2060 (502) 564-6615 Fax
Kentucky Transportation Cabinet Department of Rural and Municipal Aid: Municipal Aid Co-op Program	Funded by 7.7 percent of the Motor Fuel Tax receipts. The funds are allocated to cities and unincorporated areas based on their populations. Municipal Aid funds are under the direct control of cities for incorporated areas and of counties for unincorporated urban areas. The money is used for maintaining all streets and roads in their respective cities and urban areas.	Kentucky Transportation Cabinet Office of Rural and Secondary Roads 200 Mero Street, 6th Floor Frankfort, Kentucky 40622 (502) 564-2060 (502) 564-6615 Fax

Kentucky Department of Insurance: State Fire and Tornado Insurance Fund	Provides insurance for real property and office contents. It is a self-insurance program that provides all risk form coverage on an actual cash basis (ACV) or replacement cost basis (RCV) for state buildings and contents.	Kentucky Department of Insurance 215 W. Main St. Frankfort, KY 40601 (800) 595-6053
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Appendix 55: Local and State Plan Funding

Subgrantee	Project Number	Type
PDM:		
University of Kentucky	PDMC-PL-04-KY-2006-001	New Plan
Buffalo Trace ADD	PDMC-PL-04-KY-2007-004	Plan Update
Lincoln Trail ADD	PDM-PL-04-KY-2008-001	Plan Update
Pennyrile ADD	PDM-PL-04-KY-2008-002	Plan Update
KIPDA	PDM-PL-04-KY-2008-005	Plan Update
Lake Cumberland ADD	PDM-PL-04-KY-2008-006	Plan Update
Commonwealth of KY	PDM-PL-04-KY-2008-011	Plan Update
Kentucky River ADD	PDM-PL-04-KY-2008-013	Plan Update
Big Sandy ADD	PDM-PL-04-KY-2009-004	Plan Update
Bluegrass ADD	PDM-PL-04-KY-2009-005	Plan Update
Northern KY ADD	PDM-PL-04-KY-2009-006	Plan Update
Gateway ADD	PDM-PL-04-KY-2009-008	Plan Update
KCTCS	PDM-PL-04-KY-2009-009	New Plan
Barren River ADD	PDM-PL-04-KY-2009-010	Plan Update
FIVCO	PDM-PL-04-KY-2009-011	Plan Update
Green River ADD	PDM-PL-04-KY-2009-014	Plan Update
FMA:		
City of Hopkinsville	FMA-PL-04-KY-2006-001	New Plan
Hopkins County	FMA-PL-04-KY-2007-001	New Plan
City of Frankfort	FMA-PL-04-KY-2008-001	New Plan
LPDM:		
Louisville Metro	LPDM-PJ-04-KY-2008-001	Plan Update
HMGP:		
Commonwealth of KY	HMGP-DR-1523-001	Enhanced Status Plan
Cumberland Valley ADD	HMGP-DR-1802-004	Plan Update
Under Development:		
Louisville	HMGP-DR-1802-003	FFE Planning Supplement
Purchase ADD	HMGP-DR-1818-002	Plan Update
LFUCG	1818-anticipated	Plan Update
Kentucky State U	PDM-PL-04-2010-	New Plan

Appendix 56: Examples of Planning Workshops

AGENDA E313 BASIC HAZUS-MH WORKSHOP

Tuesday, March 23

8:30 a.m. - 9:30 a.m.

1- Brief overview of basic GIS skills (NOTE: this overview is intended for students needing additional assistance in basic GIS skills. Those students with a strong GIS background do not need to be in class until 10:00 a.m.)

10:00 a.m. - 5:00 p.m.

2 - Introductions and Overview of HAZUS-MH

3 - Review of ArcGIS 9.x Fundamentals

4 - Installation and Study Region Creation

Exercise: Study Region Creation

5 - HAZUS-MH Inventory

Exercise: HAZUS-MH Inventory

6 - Flood Hazard

Exercise: Flood Study Region Creation

Wednesday, March 24

8:30-9:30

Overview of the Comprehensive Data Management System for HAZUS users

10:00 – 5:00 p.m. HAZUS Course Work

Exercise: Stream Network

Exercise: Scenario and Run Hydrology

Exercise: Delineate Floodplain

7 - Flood Analysis

Exercise: Flood Analysis

8 - Flood Results

Exercise: Flood Results

9 - Earthquake Hazard

Exercise: Earthquake Scenarios

1:00 Lunch/Seminar: Topic – Kentucky Geospatial Information Support Team (KGIST) and Emergency Management Initiatives, Speaker: Kenny Ratliff, DMA-KYARNG GIS manager. Lunch provided courtesy of UK Hazard Mitigation Grant Program.

Thursday, March 25 HAZUS

8:30 – 9:30 am: Charting the future for HAZUS in Kentucky

Course Work 10:00-5:00 p.m. HAZUS Course Work

10 - Earthquake Analysis

Exercise: Earthquake Analysis

11 - Earthquake Results

Exercise: Earthquake Results

12 - Hurricane Hazard

Exercise: Hurricane Scenarios

13 - Hurricane Analysis

Exercise: Hurricane Analysis

14 - Hurricane Results

Exercise: Hurricane Results

15 - Mitigation

Exercise: Mitigation Planning

16 - Course Wrap-up



**Mitigation Planning Workshop
for
Preparing and Reviewing Local Plans**

Agenda

Unit 1	Introduction	8:00am -- 8:30 am
Unit 2	Organizing Resources	8:30 am – 9:30 am
Break		9:30 am – 9:45 am
Unit 3	Assessing Risks	9:45 am – 11:45 am
Lunch		11:45 am – 12:45 pm

- **Comprehensive Update Application Process: Emily Frank, UK**
- **State Plan and Available Resources: Josh Human, U of L
Center for Hazards Research**

Unit 4	Developing the Plan	12:45 pm – 1:45 pm
Break		1:45 pm – 2:00 pm
Unit 4	Developing the Plan	2:00 pm – 3:00 pm
Unit 5	Reviewing the Plan	3:00 pm – 3:45 pm
Unit 6	Implementing the Plan	3:45 pm – 4:45 pm
Unit 7	Workshop Conclusion	4:45 pm – 5:00 pm



EMERGENCY MANAGEMENT

Steven L. Beshear
Governor

Department of Military Affairs
Boone National Guard Center
Frankfort, KY 40601-6168

John W. Heltzel
Director

COMMONWEALTH LEVEE SUMMIT

April 26, 2010

Kentucky Transportation Office Building

200 Mero Street – Frankfort, KY

8:30 a.m. – 4:00 p.m.

- 8:00 – 8:30 Registration**
- 8:30 – 8:45 Welcome and Agenda**
BG John Heltzel, Kentucky Emergency Management Director
- 8:45 - 9:15 Levee Assistance Funding**
Tony Wilder, Kentucky Department for Local Government Commissioner
- 9:15 – 9:45 Levee Grants and Loan Assistance**
Tom Fern, Rural Development State Director
- 9:45 – 10:00 Break**
- 10:00 – 10:30 Levee Site Mapping**
Carey Johnson, Kentucky Division of Water
- 10:30 – 11:00 Federal Levee Certification**
Leslie Mahoney, Kentucky Emergency Management State Mitigation Officer
Mark Vieira, Senior Civil Engineer - FEMA Region IV
- 11:00 – 12:00 Question and Answer Panel**
- 12:00 – 1:00 Lunch (On Your Own)**
- 1:00 – 2:30 Corps of Engineers Breakout Sessions
Levee Management Issues**
- Room A:** Huntington Corps of Engineers Region Lead: David Humphries
City Participants: Ashland, Catlettsburg, Pikeville, Maysville, and Russell
County Participants: Boyd, Pike, and Mason, Greenup
- Room B:** Nashville Corps of Engineers Region Lead: Chris Gwaltney
City Participants: Harlan, Barbourville, Middlesboro, Pineville, Williamsburg, and Loyall
County Participants: Harlan, Knox, Bell, and Whitley
- Room C:** Louisville Corps of Engineers Region Lead: Dan Frank
City Participants: Dayton, Covington, Frankfort, Hawesville, Louisville, Newport, Paducah, Sturgis, Uniontown, Hickman, Taylorsville, and Frankfort
County Participants: McCracken, Union, Fulton, Hancock, Spencer, Jefferson, Campbell, Kenton, and Franklin
- 2:30 – 2:45 Break**
- 2:45 – 3:30 Reconvene in Auditorium**
Reports from Corps Districts/ Questions and Answers

2010 Kentucky Weather Conference

**Carroll Knicely Conference
Center**

January 15 - 16, 2010

Bowling Green, KY

**Kentucky Division of Emergency Management
in conjunction with the Kentucky Climate
Center is proud to announce the state's first
emergency management conference focused
on Kentucky #1 hazard, severe weather.**

For further information contact Robert Tindall at (502) 607-5756 or at
robert.a.tindall@us.army.mil



Kentucky Climate Center



Unbridled Pursuit of Excellence

June 23 & 24, 2010 in Louisville, Kentucky

AGENDA

2010 Chemical Stockpile Emergency Preparedness Program National Workshop
in conjunction with the
Kentucky Governor's Emergency Management Workshop

DAY ONE

Wednesday, June 23rd

- | | |
|-------------|--|
| 8:30-8:40 | Call to Order, Color Guard, and National Anthem w/vocalist
Emcee: Doug Hamilton, Director, Jefferson County EMA (Louisville) |
| 8:40-8:50 | Welcome/Admin Announcements |
| 8:50-9:20 | Welcome to Louisville, Kentucky <ul style="list-style-type: none"> ▪ Mayor of Louisville (invited) ▪ Director of Kentucky EMA ▪ Governor of Kentucky (invited) ▪ FEMA Region IV Administrator |
| 9:20-9:30 | Review of Agenda/Theme <ul style="list-style-type: none"> ▪ BG Heltzel (KY track) ▪ Dan Cavis/Dennis Legel (CSEPP track) |
| 9:30-9:45 | Break |
| 9:45-10:20 | Senior Management Perspective <ul style="list-style-type: none"> ▪ Director of FEMA's Technological Hazards Division ▪ Deputy Assistant Secretary of the Army/Elimination of Chemical Weapons ▪ Program Manager, Assembled Chemical Weapons Alternatives (ACWA) |
| 10:20-11:00 | Keynote Speaker (TBA) |
| 11:00-11:30 | Break (transition to lunch) |
| 11:30-1:00 | All-Hands Luncheon (Speaker TBA) |
| 1:00-2:30 | CSEPP Breakouts/KyEM Sessions (details forthcoming) |
| 2:30-3:00 | Break |
| 3:00-4:30 | CSEPP Breakouts/KyEM Sessions (details forthcoming) |

DAY TWO

Thursday, June 24th

- | | |
|-------------|---|
| 8:00- 9:30 | CSEPP Breakouts/KyEM Sessions (details forthcoming) |
| 9:30-9:45 | Break |
| 9:45-11:15 | CSEPP Breakouts/KyEM Sessions (details forthcoming) |
| 11:15-11:30 | Break (transition to lunch) |
| 11:30-1:00 | All-Hands Luncheon (Speaker TBA) |
| 1:00-1:45 | Part I, Joint CSEPP/KyEM Interactive Discussion: Earthquake Scenario (facilitated session) |
| 1:45-2:00 | Break |
| 2:00-2:45 | Part II, Joint CSEPP/KyEM Interactive Discussion: Earthquake Scenario (facilitated session) |
| 2:45-3:00 | Break |
| 3:00-3:40 | Awards |
| 3:40-4:00 | Special Guest Speaker (TBA) |
| 4:00-4:30 | Closing Speaker <ul style="list-style-type: none"> ▪ David Maxwell, President of the National Emergency Management Association and Director of Arkansas Department of Emergency Management |
| 4:30-4:45 | Wrap-up <ul style="list-style-type: none"> ▪ Dan Cavis ▪ Dennis Legel ▪ BG Heltzel |

Appendix 57: Quarterly Report Example

Report due no later than April 9, 2010

Project Title: _____

FEMA Approval Date: _____

Master Agreement Date: _____

Original Period of Performance Date: _____

Approved Extended Period of Performance Date

(If Applicable): _____

Point of Contact Information:

Name and Title: _____

Address: _____

Phone: _____

Fax: _____

Email: _____

I. Grant Award: _____

Federal Share: _____ *State Share:* _____ *Local Share:* _____

Approved Admin Award (HMGP grants pre-DR 1703 only): _____

Confirmed Transactions Received to Date:

	Total Outlay	75% Federal Share	State Share (__%)	Local Share (__%)	Admin	Total Payment Received
Totals to date:						
Total Funds Remaining:						

II. Scope of Work:

1. What is your project's Scope of Work?

2. What is the current status of your project?

- ☐ Open
- ☐ Scope of Work Complete
- ☐ Local Adoption (*planning only*)
- ☐ Project Closeout

FOR ACQUISITION PROJECTS ONLY:

Acquired Properties:	Demolished Structures:	Still to be Purchased:	Still to be Demolished:
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3. If your project is still “open,” please estimate the percentage of the scope of work which you have completed (*may be confirmed by state inspectors*): ____%
4. What is the anticipated completion date of this project (including state and FEMA review for planning projects)? _____

III. Timeline & Milestones: Please find listed below the work activities outlined in the project application. For each activity listed, please verify the date of completion (*if applicable*).

Description of task	Duration	Unit of time	Date Completed

IV. Summary: Give an overview/summary of your project during this reporting quarter (e.g., work completed, changes in the scope of work, problems encountered, etc.).

V. Anticipated Activities: Please identify your anticipated work activities for the forthcoming quarter (April 1 – June 30, 2010):

Do you anticipate (yes/no):

- a. Changes in the budget?
- b. Change in the Scope of Work?
- c. Extension of performance period?

If you answered *yes* or have any problems or circumstances affecting completion date, milestones, scope of work, and/or cost, please provide details here:

NOTE: KyEM staff may perform inspections and/or audits at any time. Events may occur between quarterly reports that have a significant impact upon your project, such as delays due to weather conditions or changes in scope of work. Please contact your KyEM Project Manager as soon as these conditions become known, otherwise you may be found non-compliant with your subgrant award.

VI. Planning Activities (*Must be completed for **all projects** except new and updated comprehensive mitigation planning projects*)

1. Is your community an active participant in the local mitigation planning efforts? _____
2. If so, please list the name and title of your community's designee to the Regional Mitigation Planning Council. _____
3. Please list the name of your community's respective Area Development District. _____

VII. Local Project Manager's Certification

I certify that _____ is currently performing the activities and tasks associated with the award of the Hazard Mitigation Grant. The information above accurately reflects the current status of our project.

Name _____ Date _____

***Please return this signed report by e-mail to the contact listed below by April 9, 2010:**

Esther White
University of Kentucky
Martin School of Public Policy and Administration
315 Bowman Hall, Lexington, KY 40506-0059
Email: ewhit3@uky.edu
Phone: 859-257-9248 Fax: 859-257-9714

Appendix 58: Quarterly Report Overview Spreadsheet



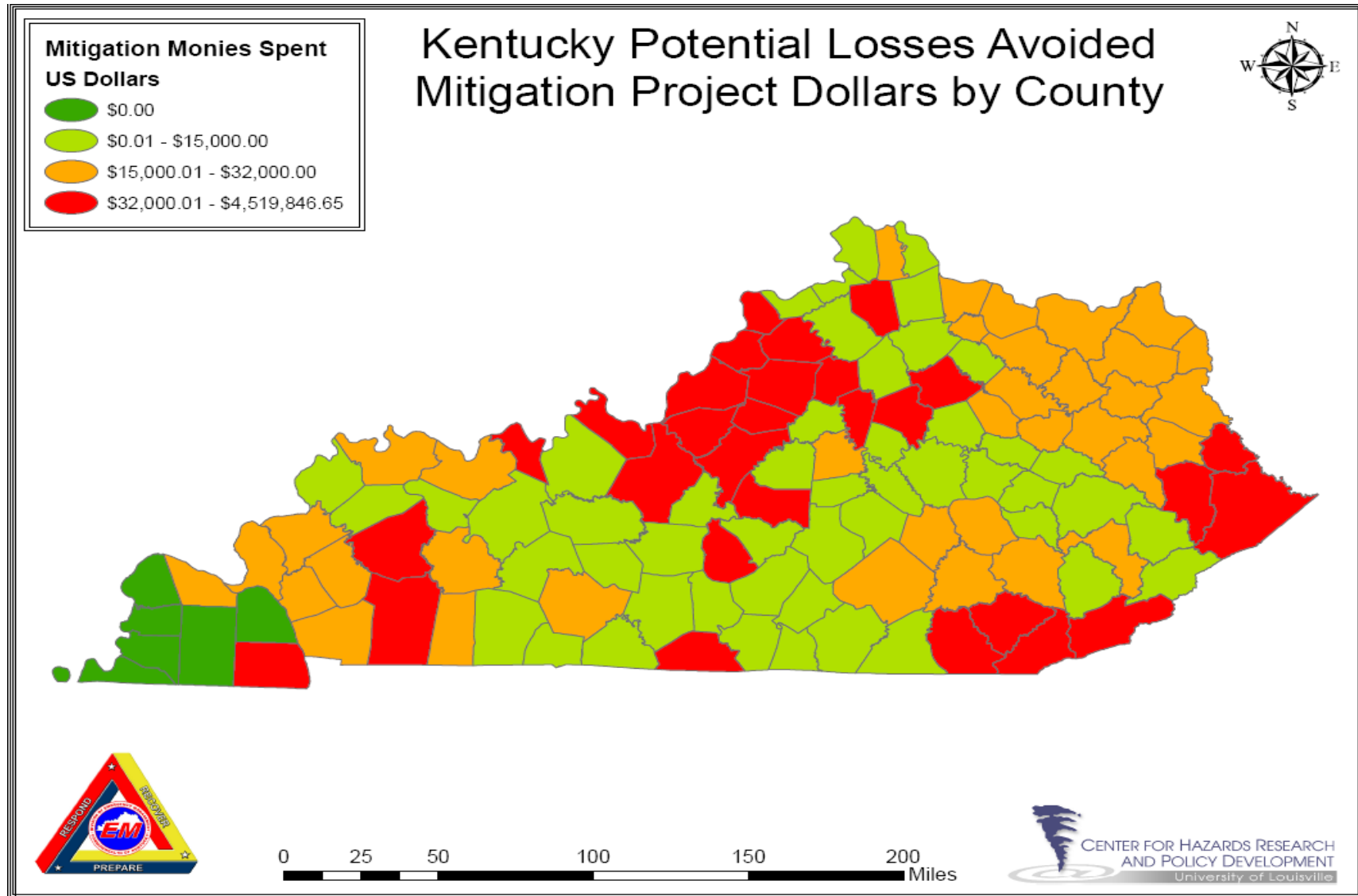
HMGP QUARTERLY REPORT
4th Quarter FY 2009
October 1, 2009 to December 31, 2009
Leslie Mahoney, KY State Hazard Mitigation Officer
(502) 807-5768
Projected Disaster Closeout Date: June 30, 2010

Project #	Community Name	Approval Date	Project Type	Original Approved Units	Revised Scope of Work	Purchased Units	Completed Units	Period of Performance	Final Site Visit	FEMA Close-out	Total Budget	Total Spent to Date	Total Federal (Share & Subgrantee)
1523-001	KY Emergency Management	11/28/05	Planning	1		1	1	10/31/08	N/A		\$ 283,671.00	\$ -	\$ 1,557.30
Comments: Pending Closeout													
1523-003	Lincoln County	11/18/05	Sirens (10)	10		10	10	Closed		02/20/09	\$ 142,789.00	\$ 142,789.00	\$ 110,948.00
Comments:													
1523-004	Nelson County	11/18/05	Acquisition (1)	1		1	1	Closed	11/28/06	10/23/07	\$ 154,650.00	\$ 145,369.00	\$ 112,934.13
Comments:													
1523-005	Louisville Metro	01/25/06	Acquisition (1)	1		1	1	Closed	03/28/07	10/22/07	\$ 178,785.00	\$ 138,355.49	\$ 107,525.42
Comments:													
1523-006	Rowan County	01/27/06	Acquisition (1)	1		1	1	Closed	03/29/07	01/07/08	\$ 162,736.00	\$ 162,736.00	\$ 126,296.96
Comments:													
1523-007	Hartford	1/27/2006	Sirens (1)	1		1	1	Closed	11/15/2006	12/12/2007	\$ 15,530.00	\$ 15,530.00	\$ 12,114.00
Comments:													

Appendix 59: Kentucky Disaster Declaration Facts 2000-2010

DR #	Date	Disaster Description	# of Applicants	Original Amount	
1310	1/10/2000	Tornadoes, Severe Storms	27	\$4,574,624	
1320	2/28/2000	Severe Storms and Flooding	34	\$5,528,207	
1388	8/15/2001	Severe Storms and Flooding	26	\$11,532,230	
1407	4/4/2002	Severe Storms and Flooding	66	\$11,088,325	
1414	5/7/2002	Severe Storms and Flooding	39	\$8,062,168	
1454	3/14/2003	Severe Winter Storms	157	\$36,400,813	
1471	6/3/2003	Severe Storms and Flooding	65	\$4,961,620	
1475	7/2/2003	Severe Storms and Flooding	41	\$8,719,387	
1523	6/10/2004	Tornadoes, Severe Storms	116	\$16,780,406	
1537	8/6/2004	Severe Storms and Flooding	76	\$3,436,038	
1578	2/8/2005	Winter Storm, Record Snow	83	\$2,630,107	
1703	5/25/2007	Severe Storms and Flooding	18	\$3,036,293	Since Last Plan
1746	2/21/2008	Severe Storms, Tornadoes, Straight-Line Winds, Rockslides	32	\$4,552,605	\$4,552,605
1757	5/19/2008	Severe Storms, Tornadoes, Straight-Line Winds, Mudslides	62	\$6,144,051	\$6,144,051
1802	10/9/2008	Severe Wind Storm associated with Tropical Depression Ike	256	\$25,132,077	\$25,132,077
1818	1/28/2009	Severe Winter Storm and Flooding	786	\$330,791,449	\$330,791,449
1841	5/29/2009	Severe Storms, Tornadoes, Flooding, and Mudslides	62	\$44,175,855	\$44,175,855
1855	8/14/2009	Severe Storms, Straight-line Winds, and Flooding	47	\$27,299,856	\$27,299,856
1912	5/11/2010	Severe Storms and Flooding Estimated	340	\$60,000,000	\$60,000,000
		TOTALS	1,993	\$614,846,111	\$498,095,893

Appendix 60: Mitigation Project Cost Avoidance



The preceding map depicts which counties have completed the most mitigation projects over the last three (3) years and thus displaying counties which could receive actual cost avoidance from future disasters. The following table depicts the data in a tabular format. For projects which represented multiple counties an even split was applied to each participating county.

County	Dollar Sum	Total Number of Projects
Adair	\$12,000.00	1
Allen	\$14,340.00	1
Anderson	\$12,105.44	1
Barren	\$14,340.00	1
Bath	\$15,962.64	1
Bell	\$1,166,185.00	3
Boone	\$12,780.00	1
Bourbon	\$127,815.44	2
Boyd	\$31,976.85	2
Boyle	\$12,105.44	1
Bracken	\$16,000.00	1
Breathitt	\$8,482.88	1
Breckinridge	\$14,377.63	1
Bullitt	\$228,890.41	4
Butler	\$14,340.00	1
Caldwell	\$15,231.77	1
Calloway	\$787,954.00	1
Campbell	\$12,780.00	1
Carroll	\$12,780.00	1
Carter	\$16,510.64	1
Casey	\$12,000.00	1
Christian	\$1,722,068.98	8
Clark	\$12,105.44	1
Clay	\$16,000.00	1
Clinton	\$12,000.00	1
Crittenden	\$15,231.77	1
Cumberland	\$12,000.00	1
Daviess	\$29,549.07	2
Edmonson	\$14,340.00	1
Elliott	\$16,510.64	1
Estill	\$12,105.44	1
Fayette	\$4,519,846.65	5
Fleming	\$16,000.00	1

County	Dollar Sum	Total Number of Projects
Floyd	\$181,466.21	3
Franklin	\$163,505.44	3
Gallatin	\$12,780.00	1
Garrard	\$12,105.44	1
Grant	\$679,780.00	2
Grayson	\$14,377.63	1
Green	\$562,000.00	2
Greenup	\$16,510.64	1
Hancock	\$98,580.00	1
Hardin	\$218,558.84	4
Harlan	\$79,059.21	3
Harrison	\$12,105.44	1
Hart	\$14,340.00	1
Henderson	\$29,549.07	2
Henry	\$41,170.41	2
Hopkins	\$61,251.88	3
Jackson	\$16,000.00	1
Jefferson	\$154,761.62	4
Jessamine	\$12,105.44	1
Johnson	\$16,000.00	1
Kenton	\$28,246.21	2
Knott	\$8,482.88	1
Knox	\$146,366.00	2
Larue	\$14,377.63	1
Laurel	\$16,000.00	1
Lawrence	\$16,510.64	1
Lee	\$8,482.88	1
Leslie	\$8,482.88	1
Letcher	\$8,482.88	1
Lewis	\$16,000.00	1
Lincoln	\$12,105.44	1
Livingston	\$15,231.77	1
Logan	\$14,340.00	1
Lyon	\$15,231.77	1
Madison	\$12,105.44	1
Magoffin	\$16,000.00	1
Marion	\$309,377.63	2
Martin	\$278,800.00	2
Mason	\$31,466.21	2

County	Dollar Sum	Total Number of Projects
McCracken	\$15,466.21	1
McCreary	\$12,000.00	1
McLean	\$14,082.86	1
Meade	\$44,007.18	2
Menifee	\$15,962.64	1
Mercer	\$27,571.65	2
Metcalf	\$14,340.00	1
Monroe	\$143,400.00	1
Montgomery	\$15,962.64	1
Morgan	\$15,962.64	1
Muhlenberg	\$21,511.77	2
Nelson	\$170,822.18	3
Nicholas	\$12,105.44	1
Ohio	\$14,082.86	1
Oldham	\$41,170.41	2
Owen	\$12,780.00	1
Owsley	\$8,482.88	1
Pendleton	\$12,780.00	1
Perry	\$23,949.09	2
Pike	\$486,784.00	3
Powell	\$12,105.44	1
Pulaski	\$27,466.21	2
Robertson	\$16,000.00	1
Rockcastle	\$16,000.00	1
Rowan	\$31,428.85	2
Russell	\$12,000.00	1
Scott	\$12,105.44	1
Shelby	\$652,870.41	4
Simpson	\$14,340.00	1
Spencer	\$70,898.41	3
Taylor	\$12,000.00	1
Todd	\$15,231.77	1
Trigg	\$15,231.77	1
Trimble	\$41,170.41	2
Union	\$14,082.86	1
Warren	\$29,806.21	2
Washington	\$14,377.63	1
Wayne	\$12,000.00	1
Webster	\$14,082.86	1

County	Dollar Sum	Total Number of Projects
Whitley	\$281,000.00	2
Wolfe	\$8,482.88	1
Woodford	\$363,860.84	2

Appendix 61: Project Closeout Worksheet

HAZARD MITIGATION GRANT PROGRAM
Form #2 PROJECT OVERVIEW

Project Number:

Project Title:

Subgrantee:

Project Objective:

Scope of Work:

Final Site Visit Report:

Recommendation: **To close the project.**

**HAZARD MITIGATION GRANT PROGRAM
FORM #1 PROJECT CLOSEOUT CHECKLIST**

Project Number:
Subgrantee Name:

Project Name:

Total Approved Project Cost:
Approved Federal Share:
Approved State Share:
Approved Subgrantee Share:
Approved Administrative Share:

Final Project Cost:
Final Federal Share:
Final State Share:
Final Subgrantee Share:
Final Administrative Share:

Project Cost ☐ Overrun or ☐ Underrun:

Project Completion Date:
Final Site Visit Date:
Final Site Visit Completed by:

ITEM CHECKLIST

Conduct a programmatic and financial audit of the project file. Ensure the following are in the file:

- ☐ Application
- ☐ Approval Letter from FEMA
- ☐ Master Agreement
- ☐ Delivery Order
- ☐ Master Agreement Invoice(s)
- ☐ Documentation in support of amount of reimbursement claimed.
- ☐ EFT payment screen(s) and receipt(s)
- ☐ Copies of any necessary permits
- ☐ For Engineered Projects: Letter of assurance of structure integrity or As-Built Certification
- ☐ For Planning Projects: FEMA approval letter, copy of the plan, jurisdictional resolutions
- ☐ For Acquisition Projects: appraisals, VTAs, Purchase Closing Worksheets, Payment Checks, Deeds, Withdrawal Letters if applicable

Comments:

I hereby certify that the above information has been received, reviewed for accuracy, and are located in the Project File Number . This project is ready for closeout.

Type Name of Project Manager

Signature of Project Manager

Date

HAZARD MITIGATION GRANT PROGRAM
Form #3 NEMIS CLOSEOUT CHECKLIST

Please complete one of these sheets for each mitigation activity (i.e., parcel, siren purchased or construction site, etc.):

Project Number:
Project Title:
Subgrantee:

Site Number:
Site Address:

GPS Coordinates: Please place in decimal format.
Latitude:
Longitude:

Property Site Inventory (acquisition, elevation or relocation projects):
Was parcel part of final project? ☐ Yes or ☐ No
County:
Mitigation Offer Applicable: ☐ Yes or ☐ No
Mitigation Action:
Post Mitigation Property Use:
Is property on FEMA's Repetitive Loss List? ☐ Yes or ☐ No
If yes, what is the Repetitive Loss # ?
Actual Amount Paid:
Date Actual Amount Paid:
Flood zone designation:

HAZARD MITIGATION GRANT PROGRAM
Form #3 NEMIS CLOSEOUT CHECKLIST

Please complete one of these sheets for each mitigation activity (i.e., parcel, siren purchased or construction site, etc.):

Project Number:

Project Title:

Subgrantee:

Site Number:

Site Address:

GPS Coordinates: Please place in decimal format.

Latitude:

Longitude:

Property Site Inventory:

1. Make
2. Model
3. kW
4. Fixed or Portable
5. Location of Generator
6. Warranty
7. Serial Number

Appendix 62: List of Acronyms

ACV	Actual Cash Value
ADDs	Area Development Districts
ADF	Area Development Fund
ALR	Annualized Loss risk
AML	Abandoned Mine Land
ARC	Appalachian Regional Commission
ArcGis	Arc Geographic Information System Software
BCA	Benefit Cost Analysis
BG	Brigadier General
CAP-SSSE	Community Assistance Program State Support Services Element
CDBG	Community Development Block Grant
CDMS	Comprehensive Data Management System
CFR	Code of Federal Regulations
CHAMPS	Commonwealth Hazard Assessment and Mitigation Planning System
CHR	University of Louisville Center for Hazards Research
CPS	Collaborative Problem Solving
CRS	Community Rating System
DAML	Division of Abandoned Mine Lands
DFIRMS	Digital Flood Insurance Rate Map Software
DGI	Kentucky Division of Geographic Information
DHP	Disaster Housing Program
DNR	Department of Natural Resources
DWSRF	Drinking Water State Revolving Loan Fund
ECP	Emergency Conservation Program
EF-scale	Enhanced Fujita Scale
EMPG	Emergency Management Performance Grant
EO	Executive Officer
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FIRA	Flood Insurance Reform Act of 2004
FMA	Flood Mitigation Assistance
GSP	Gross State Product
HAZUS	Hazards United States
HMGP	Hazard Mitigation Grant Program
KDOW	Kentucky Division of Water
KMSIF	Kentucky Mine Subsidence Insurance Fund
KRS	Kentucky Revised Statutes

KWPC	Kentucky Weather Preparedness Committee
KyEM	Kentucky Emergency Management
KYEOP	Kentucky Emergency Operations Plan
LOI	Letter of Intent or Letter of Instruction
LR	Layer Rank = Geographic Area Effected
LTRC	Long Term Recovery Council
LWCF	Land and Water Conservation Fund
MMMS	Map Modernization Management Support
MPH	Miles Per Hour
MSHA	Mining Safety and Health Administration
NCDC	National Climatic Data Center
NEHRP	National Earthquakes Hazards Reduction Program
NFIF	National Flood Insurance Fund
NFIP	National Flood Insurance Program
NHPA	National Historic Preservation Act
NIST	National Institute of Standards and Technology
NMSZ	New Madrid Seismic Zone
NOAA	National Oceanic and Atmospheric Administration
NOFA	Notice of Funding Availability
NPDP	National Performance of Dams Program
NPS	Nonpoint Pollution Source
NRCS	National Resources Conservation Service
NSF	National Science Foundation
OEJ	Office of Environmental Justice
OMB	Federal Office of Management and Budget
PA	Public Assistance
PDM	Pre-Disaster Mitigation
PDSI	Palmer Drought Severity Index
RCV	Replacement Cost Value
RFC	Repetitive Flood Claims
RiskMAP	Risk Mapping, Assessment, and Planning
SFHA	Special Flood Hazard Area
SHELDUS	Spatial Hazard Events and Losses Database
SHMO	State Hazard Mitigation Officer
SHMP	State Hazard Mitigation Program
SHMT	State Hazard Mitigation Team
SHPO	State Historical Preservation Officer
SRL	Severe Repetitive Loss
UK	University of Kentucky Mitigation Support Office
USACE	US Army Corps of Engineers
USGS	United States Geological Survey

